

THE DARK SIDE OF STATUS:  
STATUS DISTANCE AND CHANGE AS DETERMINANTS OF  
DAMAGING INTRAGROUP BEHAVIOR

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Most prior research on informal status in groups has used ordinal, ranked-based status differences (i.e., higher-status vs. lower-status) to predict interpersonal behavior. In this research I introduce several additional measures of status differences – status distance and status distance change – and demonstrate that variance along these dimensions predicts interpersonal behavior even while rank-based status differences are held constant. Specifically, across three studies I show that differences in status distance exist (Study 1), and that such status distance and changes in that distance can have an interactive effect on damaging intragroup behaviors (i.e., social undermining, information withholding) that cannot be explained by ordinal differences alone (Studies 2 and 3). In addition, I find support for my theory that certain combinations of status distance and prior changes in that distance can elicit concerns over losing status, which in turn promotes harmful behaviors among group members. Implications for this research are discussed in terms of the utility of developing dynamic status models and the dilemma posed when balancing one's own personal status concerns with the best interests of the group.

## BIOGRAPHICAL SKETCH

Nathan Pettit grew up in Medina, NY, and entered Cornell University as an undergraduate in the fall of 1998. In 2002 he received a bachelor's degree in biometry & statistics and in 2003 a master's degree in applied statistics, both from Cornell University. In 2006 Nathan earned a master's degree in social-organizational psychology from Columbia University. He entered the Ph.D. program in management at the Johnson School in the fall of 2006.

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## **CHAPTER 1:**

### **LITERATURE REVIEW AND AIMS OF THE PRESENT RESEARCH**

One of the most ubiquitous and naturally occurring features of social life is the hierarchical ordering or stratification of individuals. Across varied research domains, from sociology (e.g., Bales, 1951; Davis & Moore, 1945; Homans, 1951; Podolny, 1993), psychology (e.g., Anderson, John, Keltner, & Kring, 2000; Anderson, Srivastava, Beer, Spataro, & Chatman, 2006), organizational behavior (e.g., Baron, Davis-Blake, & Bielby, 1985; Magee & Galinsky, 2008), and economics (e.g., Duesenberry, 1949; Frank, 1985; Veblen, 1889/1994; Weiss & Fershtman, 1998), to evolutionary biology (e.g., Barkow, 1989; Miller, 2000) and primatology (e.g., De Waal, 2005; Mazur, 1985), scholars have observed and understood informal status stratification as a differentiating process whereby some individuals are accorded more status, and in turn more social advantages, and others are accorded less.

Status is defined as the prestige, respect, admiration, and influence that individuals enjoy in the eyes of others (Anderson, John, Keltner, & Kring, 2001; Bourdieu, 1984; Ridgeway & Walker, 1995). For instance, when people willingly offer an individual respect, admiration, and influence – whether it is a co-worker, a teammate, or a friend – they are conferring status upon her. In work groups, status is conferred to others based on a consensual set of beliefs about each group member's ability, value, and expected contributions toward group goals, with those who are more valued attaining higher status (e.g., Blau, 1964; Benoit-Smullyan, 1944; Berger, Cohen, & Zelditch, 1972; Dahrendorf, 1957; Davis & Moore, 1945; Homans, 1951; Ridgeway & Johnson, 1990; Thibault & Kelley, 1959). Because this conferral process takes place between two or more individuals – that is, a team offers respect, admiration, and deference to the member(s) with the skills and abilities that are most

critical for the work of the group – status is a property of, and specific to, the social relationship between these individuals (Magee & Galinsky, 2008). Therefore, an actor cannot immediately transplant her status, taking it from one social context to another, unless the observers who conferred this status come along as well. High status in one group does not automatically buy the same privilege in another.

This conceptualization of status differs from the definition of social power, which is the asymmetric control over valued resources in social relations (Blau, 1964, Dépret & Fiske, 1993; Keltner, Gruenfeld, & Anderson, 2003; Pfeffer & Salancik, 1978; Thibault & Kelley, 1959). Power is based on resources belonging to, or under the control of, an actor, and is therefore a property of the actor or role (e.g., French & Raven, 1959; Magee & Galinsky, 2008). Although power and status are both relational, in that each are bases of hierarchical differentiation, they are also distinct. For instance, an employee who has full control over the allocation of funds to various departments, but who does not have the respect of his colleagues, may have a great deal of power, but little status. While power and status are highly related and argued to reinforce one another, power can be possessed and enacted upon others, whereas status is willingly conferred to an actor by observers (Magee & Galinsky, 2008).

### *Evolution of Social Structures in the Workplace*

The bases of hierarchical differentiation in the workplace exist along two basic dimensions: informal status orders and formal hierarchies. Although these bases are not mutually exclusive – informal and formal hierarchies can be, and often are, present concurrently – for simplicity they are discussed separately. Specifically, informal status orders differ from formal hierarchies in that the latter are often imposed from the outside (e.g., by management) and based on established, formalized roles or positions (e.g., Manager, Assistant Manager) that are often accompanied by

differential control over resources (i.e., power) (Blau, 1954, 1955; French & Raven, 1959), whereas the former emerge internally and are based principally on beliefs about each member's ability to contribute to the group's goals (Bales, 1951; Berger et al., 1977).

The last half-century has seen a considerable change in the structure of modern organizations, one that has had a significant impact on the prevalence and relative importance of informal status orders versus formal hierarchies as bases of hierarchical differentiation. Although there are exceptions, the tall structures, standardized tasks, and formalized positions characterized by traditional bureaucracies (Weber, 1947; Mintzberg, 1978) represent proportionally fewer organizations today. Instead, modern organizations have moved toward adopting flatter, informal structures with fewer levels and less defined roles, utilizing horizontal teams and self-managed work groups in far greater numbers (e.g., Ancona & Caldwell, 1992; Griffith & Neale, 2001; Huse & Cummings, 1985; Townsend, DeMarie, & Hendrickson, 1998).

Whatever the reasons behind this shift – whether it be the advantage of flatter informal structures in adapting to change (Burns & Stalker, 1961) or the desire to provide employees with greater autonomy (Hackman & Oldham, 1976) – the gap between the rigid, corporate bureaucracies portrayed in William Whyte's *The Organization Man* (1956), and the team-based, informal structures of modern organizational life has never been larger. Employees are now increasingly operating within situations where formal titles and power differences, structural features which historically played a primary role in dictating patterns of interaction, are minimized or even absent. Instead, diverse groups of peers come together on collaborative efforts, developing and maintaining their own *informal* status orders (Wenger & Snyder, 2000).

### *Status Research in Modern Organizations*

So what does this mean for organizational scholars? For researchers studying informal social hierarchies, those whose objective has long been to understand how status is conferred and impacts patterns of interaction (e.g., Bales, 1951; Berger et al., 1980; Ridgeway & Walker, 1995), this shift presents unique challenges and opportunities. Most generally, because the proportion of interpersonal behavior at work which takes place within informal status orders continues to grow, a renewed focus on examining how informal status differences shape intragroup behavior becomes increasingly important.

More specifically, it is important to not simply examine informal hierarchies, but to understand them in the context of the dynamic environment in which modern organizations function. Because staying competitive means keeping pace with change (Burns & Stalker, 1961), the bases of status conferral may change quickly as well, with those solely equipped to meet today's demands being of potentially lesser value in coping with the challenges of tomorrow. For example, imagine a group composed of members who vary in their expertise in terms of technologies A and B. In times when technology A is most valued in the market, organizations will experience pressure to perform in terms of this technology. Members who are most skilled in technology A may then be accorded higher status because they are best able to help the group/organization achieve its goals and in turn meet the market's demands. However, if the market shifts toward an equal valuation of technologies A and B, or toward a greater valuation of B, the informal status hierarchy will adjust and the members skilled in technology B will attain equal or higher status than those skilled in A.

The historically predominant view of status – that which focuses only on stable ordinal differences (e.g., Berger, Fisek, Norman, & Zelditch, 1977; Ridgeway &

Walker, 1995) – offers no predictions about how changes in the informal status order will influence interaction. That is, while we know a great deal about how static, rank-based status differences shape interpersonal judgments and behaviors, we know almost nothing about how status *change* influences interpersonal interaction.

### *The Aims and Scope of the Present Research*

The goal of this research is to demonstrate the utility of developing a dynamic, more nuanced perspective on status, one that introduces both status distance and status distance change as variables influencing behavior. Doing so will provide several theoretical and applied contributions. Importantly, theories of status stratification (see Berger et al., 1980 and Ridgeway & Walker, 1995 for reviews) conceptualize status differences between group members primarily in static, ordinal terms, where the structure of the relationship is described with a single criterion (i.e., one individual has higher, lower, or the same status relative to another). The present work advances existing status theory by offering theory around how and why a *change* in status *distance* (i.e., the magnitude of status difference between two individuals in a hierarchy) can affect interpersonal interaction. Given that change is a pervasive organizational phenomenon, more nuanced status models – those that incorporate status rank, distance, and change as descriptors of a status differences – will be critical to our understanding of intragroup behavior going forward. Similarly, the applied value of this research is evidenced by the inevitability of change, and converges with recent work on status conflicts (Bendersky & Hays, in press; Overbeck, Correll, & Park, 2005; Owens & Sutton, 2001) to help managers anticipate employee behavior during and after an informal status shift.

However, clear boundaries must first be put around the scope and specific aims of the present research. Because much is known about ordinal, rank-based status

differences, the focus will be on exploring if and how changes in status distance affect behavior *beyond* the influence of rank. Changes in rank will be excluded from the theory developed here, so that changes in status *distance* between group members of adjacent rank, where rank-based differences remain constant, will be the focus. Therefore, it is necessary to show that in informal hierarchies, the status distances between members of adjacent rank are not constant among all pairs of adjacently ranked group members. For example, the group member ranked 2<sup>nd</sup> in status may have significantly more status than the 3<sup>rd</sup> ranked member, while the 3<sup>rd</sup> ranked member may have only slightly more status than 4<sup>th</sup> ranked member. Variance in distance would suggest that there is room for status distance to change while status rank remains constant.

That said, exploring the full range of possible changes is an intractable task, particularly as an initial foray into examining the utility of measuring status distance and status distance change. Specifically, imagine that the status distance between two adjacently-ranked group members could start as, or through change become, small, moderate, or large. As indicated in Table 1, these three degrees of status difference produce six possible combinations of before change and after change distance. In addition, the change – either upward or downward status movement, depending on perspective – can result from status movement by either the lower- or higher-ranked member in the pair, thereby creating twelve distinct combinations. The nature of the predictions relating to distance changes only gets more numerous and complicated from there. I will therefore theorize and test only a subset of status change combinations, focusing specifically on *how a group member of adjacently higher-rank responds to an adjacently lower-ranked group member who reduces the status distance by moving up*. Because group members pay greater attention to, look up to, and take more behavioral cues from higher status members (e.g., Roethlisberger &

Dickson, 1939; Caudill, 1958; Nelson & Berry, 1965), it is important to understand how higher status members respond to changes in status by those below. Their reactions, whether positive or negative, are likely to have significant consequences for future group dynamics and performance.

*Table 1:* Possible before and after status distance change combinations between individuals of adjacent-rank given small, moderate, and large status distances.

		<b>Status Distance <u>After</u> Status Change</b>					
		<b><u>SMALL</u></b>		<b><u>MODERATE</u></b>		<b><u>LARGE</u></b>	
<b>Status Distance <u>Before</u> Status Change</b>	<b><u>SMALL</u></b>	<b>NO CHANGE</b>		Higher-status member moves	Lower-status member moves	Higher-status member moves	Lower-status member moves
	<b><u>MODERATE</u></b>	Higher-status member moves	<b>LOWER-STATUS MEMBER MOVES</b>	<b>NO CHANGE</b>		Higher-status member moves	Lower-status member moves
	<b><u>LARGE</u></b>	Higher-status member moves	Lower-status member moves	Higher-status member moves	<b>LOWER-STATUS MEMBER MOVES</b>	<b>NO CHANGE</b>	

*Note:* Non-shaded cells indicate the focus of the present research.

From one perspective, because striving for greater status is argued to be a fundamental human motive (e.g., Cialdini, 2001; Barkow, 1989; Frank, 1985; Hogan & Hogan, 1991; Lin, 1999; Smith, 1776/1937), lower-ranking group members may be especially motivated to ascend the hierarchy. Gains in status reflect an increased valuation of a member's contribution (e.g., Berger et al., 1980), and one might then expect that such upward movement would be celebrated and embraced, particularly by higher status group members who stand to reap the greatest rewards and credit for contributions that lead to group success (Blau, 1955; Podolny, 2005). However, from another perspective, a status gain by a member of adjacently lower-rank (i.e., a closing



of the status distance between this member and the adjacently higher-ranked member) may be particularly salient and threatening to the higher status member's privileged position (e.g., Goffman, 1969; Hoffman, Festinger, & Lawrence, 1954). Given that the potential for rank-based status loss has been shown to elicit self-serving behaviors at the expense of group outcomes (Pettit, Yong, & Spataro, 2010), higher status members may engage in dysfunctional actions in order to maintaining their status rank. These dysfunctional behaviors and consequences may accrue due to changes in status distance that potentially foreshadow a rank-based status loss, even when a rank-based status loss is yet to (and may ultimately not) occur. As such, how higher-ranked group members respond to gains in status, in terms of distance, by those ranked adjacently below them is an open question, one with practical and theoretical significance.

## **CHAPTER 2:**

### **THEORY AND HYPOTHESES**

It is well established that ordinal, rank-based status differences dictate and influence interaction patterns throughout the hierarchy. For example, those who have higher status among their peers are voluntarily offered more control over group decisions and communication patterns (Bales, 1951; Berger & Zelditch, 1985) and enjoy more opportunities to contribute (Berger et al, 1977). They are listened to, looked up to, and are willfully accorded influence by lower status members (Roethlisberger & Dickson, 1939; Hurwitz et al., 1960; Masling, Greer, & Gilmore, 1955; Caudill, 1958; Nelson & Berry, 1965), are given more opportunities that further develop their skills and abilities (Blau, 1955; Caudill, 1958; Hurwitz, Zander, & Hymovitch, 1960), and are offered a greater choice of interaction partners (Hardy & Van Vugt, 2006). Moreover, higher status group members receive support and help from lower status members (Van der Vegt, Bunderson, & Oosterhof, 2006) and even enjoy more praise for their performance and credit for the group's success (Blau, 1955; Fan & Gruenfeld, 1998; Podolny, 2005). In total, much is known about how differences in rank influence interactions among group members that advantage those at the top (e.g., Tiedens & Fragale, 2003; Tiedens, Unzueta, & Young, 2007).

#### *A Dynamic Distance-based Perspective on Status*

Despite all that is known about how rank-based status differences affect behavior, I argue that the current ranked-based conceptualization misses several important and prevalent features of social life. First, differences in the magnitude of status distance between members of adjacent-rank have yet to be acknowledged or explored. Because status differences are based on differences in the skills and abilities,

and in turn value, that members bring to a group, it would seem highly unlikely that the incremental differences in perceived value would follow a perfectly standardized distribution (e.g., member ranked #1 offers  $X$  more value and is accorded  $X$  more status than the member ranked #2, rank #2 offers  $X$  more value and is accorded  $X$  more status than the member ranked #3, etc). For example, in much the same way that it is quite rare for the top five finishers in a race to each arrive at the finish line in perfect one-second intervals, or for the top five salespeople to sequentially differ by exactly five units in sales, naturally emerging status hierarchies are unlikely to order themselves as a perfectly step-wise function, with equidistant differences in prestige and recognition up and down the social order.

Instead, differences in perceived value and in turn in status distances between adjacently ranked group members may be relatively larger or smaller, leading the resulting hierarchy to more closely resemble a series of “gaps” and “clumps” than the even increments implied in current rank-based conceptualizations. The additional variance introduced by incorporating magnitude as a measure of status difference may both better approximate the true shape of most informal social hierarchies and, as discussed below, offer predictive power in explaining the determinants of intragroup behavior.

*Hypothesis 1: Status distance between group members of adjacent-rank will vary across pairs of adjacently-ranked group members within a hierarchy.*

Second, while status hierarchies are argued to be self-reinforcing (e.g., Magee & Galinsky, 2008; Mazur, 1973, 1985), this does not preclude the possibility that status may change. The notion that hierarchies are dynamic, evolve, and are even actively contested is present across of range of research traditions (e.g., Bendersky &

Hays, in press; Bendersky & Shah, in press; Chizhik, Alexander, Chizhik, & Goodman, 2003; Loch, Huberman, & Stout, 2000; Owens & Sutton, 2001; Shelly & Troyer, 2001). Yet, at present, little work has systematically examined how group members behave toward one another as the result of a status change. Moreover, without previous acknowledgement that the difference in status distance between two adjacently-ranked group members can vary, status change has been thought of only in terms of rank-based adjustments (e.g., the member ranked 3<sup>rd</sup> is later ranked 4<sup>th</sup>, and the member initial ranked 4<sup>th</sup> is later ranked 3<sup>rd</sup>) to the hierarchy (e.g., Goffman, 1969; Owens & Sutton, 2001)

I contend that status changes in terms of distance between group members of adjacent-rank not only occur, but are likely to be salient and produce strong reactions (Barkow, 1980; Leary, Tambor, Terdal, & Downs, 1995). Though status rankings can encompass more than performance outcomes, and occur in situations where competition is not explicit or expected, the illustration below is analogous to what informal status dynamics could look like. Imagine, for instance, that the two top competitors in a mile run compete against each other four times in a season. In one case, the top runner finishes five seconds ahead of the second best runner in each of the first three races. In another case, the top runner again wins each of the first three races, yet in the first race the second place runner finishes 15 seconds behind, in the second race 10 seconds behind, and in the third race only five seconds behind. What is common among these two scenarios is that the top runner has consistently performed better than second place runner in three races, and the margin of victory in the most recent race was five seconds. If we were to apply the historically dominant understanding of status to these scenarios they would be equivalent: the top runner would be ranked 1<sup>st</sup> and have higher status than the runner ranked 2<sup>nd</sup>. Predictions

regarding how this rank-based status difference will affect future competitive behavior and motivation would be the same as well.

However, there is an important difference between the two cases that is likely to impact how each runner approaches and competes in the fourth race. Although in each scenario the margin of victory was five seconds in the third race, this difference was constant across all races in the first scenario but decreased from 15 to 10 to 5 seconds in the second scenario. Extrapolating these patterns onto the fourth race, in the first scenario the observers of the previous contests and the runners themselves may assume that the margin of victory will again be roughly five seconds for the top runner, but in the second scenario, the fourth race is presumed to be much closer. That is, histories of change versus no-change in terms of performance are likely to impact the runners' expectations, preparation, and strategies for the fourth race. Similarly, adjacently-ranked group members may react differently to one another depending on recent changes in the magnitude of status difference between them.

### *The Value of Status and Potential for Loss*

Individuals place a premium value on having status (e.g., Cialdini, 2001; Flynn, Reagans, Amanatullah, & Ames, 2006; Homans, 1951; Hogan & Hogan, 1991; Heffetz & Frank, in press; Huberman, Loch, & Onculer, 2004; Loch et al., 2000). Beyond its multiple social and instrumental benefits (e.g., Bales, 1951; Barkow, 1989; Berger et al., 1977; Lin, 1999; Thye, 2000; Van der Vegt, et al., 2006), having status has been linked to greater mental and physical wellbeing (Adler, Epel, Castellazzo, & Ickovics, 2000), ego satisfaction, and self-esteem (e.g., Barkow, 1989; Emerson, 1962; Stevens & Price, 1996). It is not surprising then that status is often among the most important motivators in employee surveys (e.g., Kovach, 1987; Parker & Kushmir, 1991; Sadler, 2001) and has been argued to be, at times, a stronger motivator than

monetary compensation (e.g., Blau & Scott, 1963; Homan, 1951; Huberman, Loch, & Onculer, 2004). These findings suggest that status motives may extend beyond its tangible benefits (e.g., Huberman, Loch, & Onculer, 2004) and that individuals can, at times, seek status for its intangible, psychological properties alone (Barkow, 1989; Emerson, 1962; Frank, 1985; Sivanathan & Pettit, 2010).

Given the value of status, individuals should find losing status, or the potential for status loss, to be a particularly aversive state (e.g., Eibach & Keegan, 2006; Higgins, 1998; Kahneman & Tversky, 1979; Thaler, 1980). For instance, Kemper (1991) observed that even in a setting where status offered no tangible rewards, assigning people high status caused positive emotions, whereas taking status away induced negative emotions. Related studies have shown that individuals work harder to prevent losing status – both for themselves and their groups – than they do to achieve greater status (Pettit & Lount, 2010; Pettit et al., 2010). Such findings are aligned with Kahneman and Tversky's (1979) propositions around the value function in prospect theory. Specifically, the carriers of value – whether it is in the domain of wealth, welfare, or prestige – are changes to these states, rather than absolute amounts (Kahneman & Tversky, 1979, p. 277). This suggests that individuals may be particularly attuned and responsive to relative status changes, regardless of their “absolute” status, that negatively impact, or have the potential to negatively impact, their standing in the eyes of others (e.g., Van Dijke & Poppe, 2003).

Because status is inherently relative, status changes by others can impact our own standing (e.g., Blau, 1964; Owens & Sutton, 2001). That is, in the realm of status attainment, as in competitive behavior, outcomes are often negatively correlated and interdependent such that the success of one individual may come at the expense of another (Deutsch, 1960). Although a status loss can occur in a variety of ways, including having one's perceived contribution to the group decline (e.g., Berger et al.,

1980; Magee & Galinsky, 2008), individuals may also lose status when others' contributions increase and are ascribed greater value by the group (i.e., they gain status), whether or not there is a change in rank.

That said, not all status gains by others should impact our status equally. Because comparability decreases as dissimilarity increases (e.g., Sidanius & Pratto, 1999; Tajfel & Turner, 1986), status gains by group members who are either significantly lower or higher in rank-based status than ourselves are unlikely to have much relevance to our social standing. In contrast, individuals who are relatively closer in status (e.g., adjacently lower or higher in rank) provide implicit points of comparison (e.g., Festinger, 1954; Goethals, & Darley, 1977; Tesser, 1986) and can affect our status more directly. Specifically, while a status gain by an adjacently higher ranked group member should not appreciably impact one's perceived future status, as this individual is already of higher rank, a status gain by an adjacently lower ranked group member foreshadows a potential rank-based status loss. Observing a group member's contributions become more valued and her status approach one's own should therefore be a considerable source of threat to the self (e.g., Tesser, 1988; Tesser, Miller, & Moore, 1988).

#### *Reactions to Status Gains by Adjacently Lower Ranked Others*

People often act in ways to protect their social standing when under threat (e.g., Menon & Pfeffer, 2003; Menon, Thompson, & Choi, 2006; Overbeck et al., 2005; Sutton & Hargadon, 1996). For example, Hoffman, Festinger, and Lawrence (1954) observed that when one individual is performing better than others, the others can and do sometimes act so as to prevent the higher performer from further increasing her performance (see also Latour & Woolgar, 1979). Similarly, Tesser and Smith (1980) found that individuals will sabotage others, including their friends, in

order to maintain a positive self-view. Moreover, in the realm of status, individuals who attempt to claim higher status than is appropriate or deserved are punished by their fellow group members (Anderson, Ames, & Gosling, 2008; Ridgeway & Diekema, 1989). Although the functionalist approach to status conferral assumes that individuals will subordinate their own status interests, even if it means losing status, for the benefit of the group (e.g., Berger & Conner, 1974; Berger et al., 1977), the sum of the work above suggests otherwise. Specifically, the motive to resolve threat and protect one's own standing often manifests itself in behavioral strategies whose focus is on harming or blocking the advancement of others (e.g., Diehl & Stroebe, 1987).

Goffman (1969) used the term *move* to indicate the basic element of behavior that works to negotiate status within a group. Status moves can be either offensive (i.e., aimed at gaining status) or defensive (i.e., aimed at preventing a status loss), and, based on the research presented above, an adjacently lower ranked group member's status gain is likely to elicit a more *defensive* reaction. Yet, the specific behavior selected in reaction to upward movement from an adjacently lower ranked member is a critical determinant of whether the defensive action will achieve its intended goal. For example, overtly and baselessly sabotaging another group member may be viewed unfavorably by others – as self-interested and damaging to the group – and consequently have the opposite effect of what was intended (i.e., group members will re-evaluate the behavior of the higher status member as warranting lower status). Because being seen as group-interested, rather than self-interested, is fundamental to status attainment (Ridgeway, 1982; Willer, 2009), individuals can and do instead attempt to preserve their own status “under the guise” of completing the work of the group (Owens & Sutton, 2001; Schwartzman, 1986).

Status evaluations are based on subjective assessments of individuals' expected future contributions (e.g., Berger et al., 1977), which leaves room for debate around



the usefulness of any one group member. Therefore, one natural path to block another's further status attainment is to try to negatively influence other group members' impressions of this member and her abilities, contributions, and value. This behavior is often referred to as *social undermining*, and is defined as actions intended to hinder, over time, another group member's ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation (Duffy, Ganster, & Pagon, 2002; Duffy, Ganster, Shaw, Johnson, & Pagon, 2006). Given the intended goal and presumed outcomes of social undermining, such behavior, as long as it does not appear blatantly self-interested (e.g., Ridgeway, 1982), can potentially upset the status conferral process and thus lessen the threat to one's own position.

That said, undermining of an adjacently lower ranked group member by an adjacently higher ranked group member should not occur across the board. After all, undermining can come at an indirect cost to the self, as intentionally harming or devaluing the positive contributions of another may lead to poorer group performance. For instance, in situations where the status distance between two adjacently ranked group members – whether it be relatively small, moderate, or large – has not recently changed, the higher-ranking group member should not face any risk of status loss and therefore have no cause to actively hold the lower-ranking group member back. Moreover, even in cases where the lower ranking group member has recently gained status (i.e., lessened the status distance), if the status distance between her and the adjacently higher-ranking member remains at least moderate, the higher-ranking group member should not experience an immediate threat, as additional status gains by this individual may still not upset the rank-based order.

However, when the lower-ranking individual has recently gained status and sufficiently minimized the status distance in the dyad, such that any future gain by this individual would likely penetrate the threshold for rank-based status loss, the higher-

ranking group member is likely to be motivated to resolve this imminent threat through, among other possible behaviors, social undermining. Such results would suggest that the interactive effect of status distance and status distance change influence interpersonal behavior even when the rank-based status difference remains constant.

*Hypothesis 2: Status distance and status distance change will interactively influence social undermining behavior by an adjacently higher-ranked group member toward an adjacently lower-ranked group member, such that the greatest undermining behavior will be directed toward an adjacently lower-ranked group member whose status has changed and minimized the status distance to become close in status to the adjacently higher-ranking group member.*

*Hypothesis 3: The interactive effect of status distance and status distance change on social undermining behavior will be mediated by the perceived potential for status loss.*

### *Overview of Studies*

I tested the three hypotheses stated above over three studies. Study 1 (i.e., Chapter 3) tests Hypothesis 1 (i.e., differences in status distance between group members of adjacent status rank will not be constant across all pairs of adjacently ranked group members). In Study 1 participants were asked to “draw” a status hierarchy, based on a current or previous group experience, paying particular attention to differences in the magnitude of status differences (i.e., distance), if any, between

members, in addition to ordinal rank-based differences (a portion of the written stimulus is provided in Appendix 1).

Study 2 (i.e., Chapter 4) then offers an initial test of Hypothesis 2 (i.e., status distance and status distance change will interactively influence social undermining behavior by an adjacently higher-ranked group member toward an adjacently lower-ranked group member) and Hypothesis 3 (i.e., the interactive effect of status distance and status distance change on social undermining behavior will be mediated by the perceived potential for status loss). Utilizing a recall exercise (the exact manipulations are provided in Appendix 2), participants were asked to draw from a previous experience in a group where the status *distance* changed or did not change between two adjacently-ranked group members and report on the behavior (i.e., social undermining and expression of the perceived potential status loss) of the adjacently higher-ranked group member.

Finally, the goal of Study 3 (i.e., Chapter 5) was to provide a behavioral test of Hypotheses 2 and 3. A laboratory study was conducted where participants were ostensibly working in groups on an online idea development task. Participants were assigned to a status level within their group after an initial round of idea sharing. After the second round of idea development and sharing the hierarchy changed (or not), such that the group member ranked adjacently-lower than the participant gained status (i.e., lessened the status distance without a change in rank). In round 3 participants were each given unique information that was not known by their fellow group members, but that could help their group members make improved contributions to the group in the future. Because part of the construct of social undermining involves attempts to prevent another person from achieving work related success, I operationalized social undermining as the frequency with which the participant withheld information from the adjacently lower-ranked group member, information

that could help this person improve one of her ideas, and in turn, allow her to potentially gain additional status.

### **CHAPTER 3:**

#### **STATUS DISTANCE: AN EXISTENCE PROOF**

Hypothesis 1 predicts that differences in status between group members of adjacent status rank will vary (i.e., will not be equidistant) across pairs of adjacently-ranked group members within an informal status hierarchy. The goal of Study 1 was to test this hypothesis, and serve as an “existence proof” for my claim that differences in status distance exist and that people are able to recognize and report on these differences.

#### *Method*

##### *Participants and design*

For \$7 each, thirty-two university students (14 female, 18 male, mean age = 22.63 years; mean years full-time work experience = 1.73) participated in this descriptive study.

*Procedure.* Participants entered the lab, were given a packet of materials, and seated at a desk with a dividing wall. I told participants that over the course of the session they would learn how to “draw” a status hierarchy based on a group where they are or were a member. I also verbally defined what status is (e.g., “the amount of prestige, respect, and admiration that you have relative to your other group members, based on the relative value you bring to a group”), and what status is not (e.g., “control of resources, formal authority, and power”).

Participants then began working through their materials, which started by reiterating the statements I had just made verbally. Participants next read about a hypothetical group interaction. The members were described as, “not only being ranked differently in status, but also that the magnitude of these status differences

varied.” For example, several members were described as being, “ranked adjacently to one another, but with a magnitude of the difference in respect and prestige (i.e., status) that was quite small.” In contrast, other group members of adjacent rank were described as, “having significantly different status.”

Participants next read about a second hypothetical six-member group and were asked to draw the hierarchy based on how the various members’ skills and abilities, and in turn status, compared to one another. It is important to note that while the status distances between group members of adjacent-rank in this and the previous hypothetical group were described as varying in some cases (i.e., status distance between rank #1 and rank #2  $\neq$  status distance between rank #2 and rank #3) this was not always the case (status distance between rank #1 and rank #2  $\approx$  status distance between rank #3 and rank #4). Participants were given a vertical line broken up into 35 units, and asked to rank the group members according to their status with higher status members toward the top and lower status members toward the bottom. Rough guidelines were given for how to indicate the magnitude of status differences between group members (specifically: small status distance = 1-3 units; moderate status distance = 4-8 units; large status distance = more than 8 units).

After participants drew the hierarchy for this hypothetical group, I again verbally addressed them. I told them that they were now going to be asked to consider a group they are currently in or were a member of in the past and to draw the hierarchy. I gave participants strict guidelines about what type of group to choose. The group needed to be 1) one where there were differences in status but not in power, 2) that had met face-to-face frequently for a period of more than three months, 3) had clear work goals to meet, 4) was not a group for a class project, 5) had between 4-8 core members, and 6) a group where the participant was not the highest or lower status member. I also noted that how they chose to draw their hierarchy was entirely their

choice. What was most important was that their drawing best depict the status structure of the group and was true to their perceptions. For example, every status distance between adjacently-ranked group members could vary from relatively smaller to relatively larger, some dyadic status distances could vary from some but be the same as others, or all the status distances could be the same.

Participants then read a set of directions that again reiterated the points I had just made. After identifying a group that met these criteria, participants provided information about the group, including the type of group (e.g., group at work, student organization, athletic team), how frequently the group met each week, the number of hours the group met each week, and the participant's tenure in the group. Once this information was provided, participants were asked to draw this group's status hierarchy on a 60-unit vertical line, using the rough guidelines for small, moderate, and large status distances (see Appendix 1). Once complete, participants reported their own demographic information, were paid, thanked for their time, and dismissed.

## *Results*

### *Overall group characteristics*

The groups that the thirty-two participants reported on were easily classified into five different types: 16 thought about a team in the workplace (50%), ten about a student organization (31%), three about an athletic team (9%), two about a musical group (6%), and one about a religious organization (3%). These groups met face-to-face on average 2.94 times per week for 9.73 total hours, and participants' average tenure in the group was 1.45 years. The mean number of group members per group (including the participant) was 6.00, and participants' mean status rank in the group was roughly in the middle ( $M = 49^{\text{th}}$  percentile). In accordance with the instructions, none of the participants considered a group with less than four or more than eight

members and the participant was never the highest or lower status member. Moreover, although not explicitly requested in the instructions, no participant drew a hierarchy where two or more members had exactly the same status.

### *Main analyses*

I measured the distance, in units, between each pair of adjacently-ranked group member in the hierarchy, calculated the mean status distance between adjacently-ranked group members and standard deviation of these distances, as well as the maximum and minimum distance between adjacently-ranked group members in each hierarchy. These descriptive statistics were calculated for all thirty-two participants' hierarchies.

The null hypothesis that I predict will be rejected by Hypothesis 1 is that status differences do not vary (i.e., are equidistant) among pairs of adjacently-ranked group members within a given hierarchy. For this to be true, the maximum status distance between two adjacently-ranked members would be the same as the minimum status distance between two adjacently-ranked members within the same hierarchy. The difference between the maximum and minimum status distances would be zero, and the standard deviation around the mean status distance within each given hierarchy would be zero as well. This was not observed once among the thirty-two hierarchies. In fact, the overall mean difference between the maximum and minimum dyadic status distance in this sample was 7.63 units ( $SD = 4.22$ ). The mean status distance between adjacently-ranked group members was 5.21 units, and the average standard deviation around the mean was 3.23 units ( $SD = 1.76$ ).

In addition, I conducted one-sample t-tests to compare, to zero, both the average difference between the maximum and minimum status distance and the average standard deviation around the mean status distance. Both of these differed



significantly from zero,  $ts(31) > 10$ ,  $ps < .001$ , suggesting that status differences, at least in terms of differences in status distance, are not all the same.

### *Additional analyses*

Exploratory analysis revealed a significant negative correlation between rank in the status hierarchy (i.e., ranks toward the top vs. bottom) and the status distance between adjacently-ranked group members,  $r(160) = -.21$ ,  $p = .009$ . Specifically, adjacently-ranked group members who were ranked toward the top of the hierarchy tended to be closer to one another in terms of status distance than adjacently-ranked group members who were positioned toward the bottom of the hierarchy (i.e., as rank goes down status distance goes up). Because a member's absolute rank is only informative in the context of the size of the group (e.g., a group member ranked 4<sup>th</sup> is of higher rank in an eight person group than a five person group), the variable "rank" that was included in these analyses was percentile rank (e.g., rank 4 of 8 = 56<sup>th</sup> percentile, rank 4 of 5 = 30<sup>th</sup> percentile).

### *Discussion*

These results offer strong support for Hypothesis 1 and specifically that differences in status distance between group members of adjacent-rank vary (i.e., are not always equidistant) across pairs of adjacently-ranked group members within informal status hierarchies. While this does not preclude the possibility that status distances could be equal throughout a given hierarchy, the results of this study would suggest that this form of status distribution would be the exception rather than the norm, and was not observed once among the 32 participants' hierarchies.

It is, however, important to note the tradeoffs inherent in this descriptive study that may have given rise to the findings being partially the result of demand effects. In

order for participants to consider the idea of status distances in their own experiences, it was first necessary to describe several example group hierarchies where the status distances between adjacently-rank members varied (e.g., “Bill doesn’t have nearly the status of Megan,” “Liz has slightly less status than Bill”). Doing so allowed participants to better understand what was meant by status distance before applying this understanding to a prior group experience. That said, although I repeatedly highlighted – both verbally and in the written instructions – the importance of drawing a hierarchy that was most representative of how they felt status was distributed in their own groups (e.g., distances could vary or not), it is still possible that the observed results were more a reflection of the hypothetical scenarios they read about than of their actual perceptions of status differences in a prior group. While this cannot be completely ruled out, it seems less plausible in light of the exploratory analyses that showed between-participant similarities in how status was distributed in their groups (i.e., correlation between rank and adjacently-ranked dyadic status distance of  $-.21$ ). Were participants only reporting differences in status distance because they felt this was what the study demanded (and in truth they believed no differences in distance existed), these differences should have been randomly distributed and not yield any between-hierarchy similarities. Moreover the negative correlation between rank and status distance cannot be attributed to participants mimicking the two example hierarchies, as 1) the form of these hierarchies differed from one another and 2) neither matched the form indicated by the exploratory results.

## **CHAPTER 4:**

### **RECALL EXAMINATION OF THE EFFECTS OF STATUS DISTANCE AND CHANGE**

The goal of Study 2 was to examine the interactive effect of status distance and status distance change between adjacently-ranked group members on undermining of the lower-ranked member by the higher-ranked member. Hypothesis 2 predicts that the greatest undermining of the adjacently lower-ranked group member will occur when the potential for status loss is most imminent for the higher-ranked group member – that is, when the lower-ranked member has recently lessened the status distance to become only slightly lower status than the adjacently higher-ranked member. Since the perceived potential for status loss should not be as imminent when no lessening of the status distance has occurred, or when the gain by the adjacently lower-ranking individual still leaves this group member at a moderate status distance from the higher-ranked member, relatively less undermining was expected in these conditions. Moreover, because undermining is argued to be the result of concerns over potential status loss, Hypothesis 3 predicts that the interactive effect of status distance and status distance change will be mediated by the perceived potential for status loss.

#### *Method*

##### *Participants and design*

For \$7 each, 101 university students (52 female, 48 male, 1 not reporting; mean age = 21.39 years; mean years of full-time work experience = 1.55) participated and were randomly assigned to a condition in a 2 status distance (close, moderate)  $\times$  2 status distance change (yes, no) between-subjects factorial design.

*Procedure.* Participants entered the lab and were given a booklet of materials. In the instructions I asked participants to recall their experience in a “long-term, enduring group in the workplace” where “everyone is/was concerned about the group performing well” and where status differed among group members (e.g., difference in the amount of prestige, respect, and admiration enjoyed by various group members) but power did not (e.g., no differences in titles, formal authority, or control of resources). I asked participants to consider the dynamics between two individuals, neither of whom had the highest or lowest status in the group, who were ranked adjacent to each other in status (e.g., rank 2<sup>nd</sup> and 3<sup>rd</sup>, rank 4<sup>th</sup> and 5<sup>th</sup>). I told participants explicitly not to consider themselves as either of the focal group members.

*Status change and distance manipulations.* I told participants in the no status change conditions that, despite the fact that these individuals were/are adjacent in terms of status rank (i.e., no group member held a rank between these members), they were to think of a situation where the status difference (e.g., the difference in respect, prestige, and admiration) between these individuals was slight [moderate]. I asked them to consider a situation where this status difference had been relatively stable for some time and to write about the dynamics between these two group members.

In contrast, I told participants in the status change conditions that, despite being adjacent in terms of status rank, they were to consider two group members who were initially moderately [significantly] different in terms of status. However, the contributions of the relatively lower-ranked group member of the pair had recently been seen as more valuable by the other group members and this lower-ranked member gained some status. Although the ranking between these group members remained the same, the moderately [significantly] lower status member was now only slightly [moderately] lower in status (see Table 2).<sup>1</sup> I asked participants to write about

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<sup>1</sup> In order to hold the final status distances constant across the status change vs. no-change conditions, it was necessary for the adjacently lower-ranked group members in the change conditions to initially be

the dynamics between these two group members after the status change (e.g., How did they behave toward one another? What was their relationship like? How did they feel about each other?). If participants could not think of a situation they had experienced that matched the description above I asked them to imagine such a scenario; however, only participants who could think of a real prior experience were included in the analyses.<sup>2</sup> (Appendix 2 contains detailed instructions for all conditions).

Table 2: Status distance and status change manipulations in Study 2.

		Status Change	
		Yes	No
Ending Status Distance	Close	One group member was <i>moderately</i> lower status than the other, but moved up to become <i>slightly</i> lower status than the other	One group member was <i>slightly</i> lower status than the other, with no recent change in status
	Moderate	One group member was <i>significantly</i> lower status than the other, but moved up to become <i>moderately</i> lower status than the other	One group member was <i>moderately</i> lower status than the other, with no recent change in status

lower in status than the lower-ranked group members in the no-change conditions. However, when participants wrote about the dynamics between the group members (i.e., post-change in the change conditions) the status distance in the change conditions (close versus moderate) was equivalent to the no-change conditions.

<sup>2</sup> Data included in Study 2 was limited to participants who were able to think of and draw from a previous experience, rather than imagining such a scenario, that matched one of the four scenarios. Participants were randomly assigned to one of four conditions until roughly 25 participants who reported drawing from a prior experience had been collected in a given condition. Once a condition had data from roughly 25 people who were able to recall a real prior experience, participants were then randomly assigned to one of the remaining three conditions, and once one of these three conditions filled to roughly 25 participants reporting real experiences, participants were then randomly assigned to one of two remaining conditions, etc. The number of participants who were excluded because they could not think of a previous experience that matched the demands of the recall scenario varied by condition (close no-change = 3, moderate no-change = 4, close change = 7, moderate change = 16), and determined the order that the cells were closed. Although the rate of exclusion did vary by condition, suggesting that some of the scenarios were more commonly experienced than others, participants who were able to think of a previous experience did not vary by condition in terms of their assessments of how difficult it was to recall such an experience,  $F(1, 100) = .64, p = .59$  (“How difficult was it for you to recall a previous experience that matched the scenario described on the first page” from 1 [*not at all difficult*] to 9 [*extremely difficult*];  $M_{overall} = 3.64; SD = 2.06$ ). Participants who were unable to draw from a previous experience, and were excluded in the analyses, did not differ demographically (i.e., age, gender, ethnicity), from participants who were able recall an appropriate prior experience, and were included in the analyses.

## *Measures*

*Expression of potential status loss.* After writing about the dynamics between these adjacently-ranked group members, participants were asked to consider the behavior of the higher-ranking group member. Prior work has argued that the potential for status loss is a threatening experience, where an individual feels one's status is at risk because status loss is believed to be possible (Pettit & Lount, 2010; Pettit et al., 2010). Therefore, I developed and measured the expression of potential status loss with the following four items ( $\alpha = .80$ ) using items anchors 1 (*strongly disagree*) to 9 (*strongly agree*): "In this group, the higher status group member expressed that... he/she felt his/her status was threatened"; "...he/she risked losing status"; "...his/her social standing was at risk"; "...he/she faced the possibility of losing status."

*Undermining.* Participants then reported how frequently the higher-ranked group member undermined the lower-ranked group member using eight items from Duffy, Ganster, and Pagon's (2002) social undermining scale ( $\alpha = .93$ ) with items anchors from 1 (*never*) to 9 (*very frequently*). Sample items include: "Spread rumors about this group member," "Delayed work to make this group member look bad," and "Belittled this group member or his/her ideas."

## *Results*

### *Main analyses*

*Expression of potential status loss.* A two-way ANOVA with the expression of potential status loss as the dependent variable,  $F(3, 100) = 13.25, p = .001$ , revealed a significant status distance  $\times$  status distance change interaction,  $F(1, 100) = 8.07, p = .005$ . As anticipated, participants recalled observing the higher-ranked group member express the potential for status loss more when the lower-ranked member was previously *moderately* lower status and lessened the status distance to become only

*slightly* lower status (close change  $M = 7.05$ ,  $SD = .97$ ) than when the status distance, whether close or moderate had not recently changed (close no-change and moderate no-change), or when it changed and the lower-ranked member recently moved from significantly to moderately lower in status (moderate change) ( $M = 5.28$ ,  $SD = 1.30$ ),  $t(97) = 6.23$ ,  $p < .001$ ,  $d = 1.44$ .

Moreover, simple effects revealed that participants recalled observing the higher-ranked group member express the potential for status loss more when the lower-ranked member was previously *moderately* lower status and lessened the status distance to become only *slightly* lower status (close change  $M = 7.05$ ,  $SD = .97$ ) than when this slight status difference had not recently changed (close no-change  $M = 5.33$ ,  $SD = 1.40$ ),  $t(97) = 4.93$ ,  $p < .001$ ,  $d = 1.41$ . In contrast, participants reported observing no differences in the higher-ranked group members' expression of potential status loss when this member had a moderately lower adjacently-ranked group member,  $t(97) = .92$ ,  $p = .36$ , regardless of whether this member was previously significantly lower and moved up to become moderately lower (moderate change  $M = 5.41$ ,  $SD = 1.22$ ), or when this moderate status distance had not recently changed (moderate no-change  $M = 5.09$ ,  $SD = 1.29$ ). In addition, in the change conditions, participants reported observing the adjacently higher-ranked group member express the potential for status loss more when the lower-ranked member recently moved from moderately to slightly lower in status (i.e., close change), than from significantly to moderately lower (i.e., moderate change),  $t(97) = 4.71$ ,  $p < .001$ ,  $d = 1.48$ .

*Social undermining.* A two-way ANOVA with undermining as the dependent variable,  $F(3, 100) = 6.02$ ,  $p = .001$ , revealed a significant status distance  $\times$  status distance change interaction,  $F(1, 100) = 9.52$ ,  $p = .003$ . As predicted in Hypothesis 2, participants reported observing the higher-ranked group member undermine the lower-ranked member more when the lower-ranked member was previously *moderately*

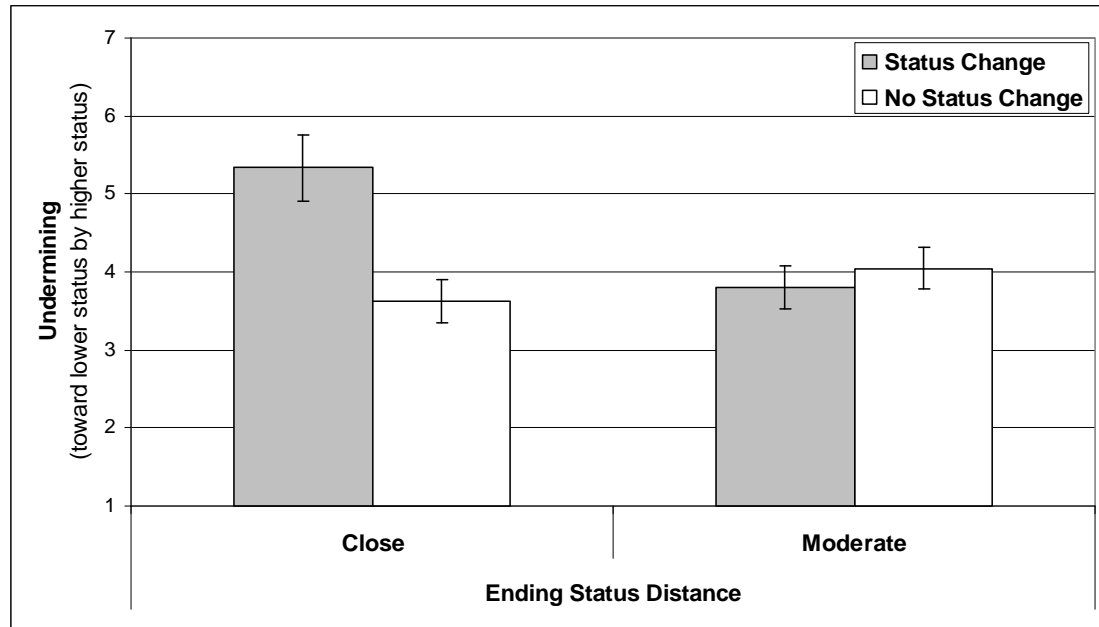
lower status and lessened the status distance to become only *slightly* lower status (close change  $M = 5.34$ ,  $SD = 2.09$ ) than when the status distance, whether close or moderate had not recently change (i.e., close no-change and moderate no-change), or when it changed but lower-ranked member recently moved from moderately to slightly lower in status (moderate change) ( $M = 3.82$ ,  $SD = 1.37$ ),  $t(97) = 4.13$ ,  $p < .001$ ,  $d = .93$ .

Moreover, simple effects revealed that participants reported observing the higher-ranked group member undermine the lower-ranked member more when the lower-ranked member was previously *moderately* lower status and lessened the status distance to become only *slightly* lower status (close change  $M = 5.34$ ,  $SD = 2.09$ ) than when this slight status difference had not recently changed (close no-change  $M = 3.63$ ,  $SD = 1.39$ ),  $t(97) = 3.86$ ,  $p < .001$ ,  $d = .96$ . In contrast, participants reported observing no differences in undermining of the moderately lower status group member,  $t(97) = .52$ ,  $p = .60$ , regardless of whether this member was previously significantly lower and moved up to become moderately lower (moderate change  $M = 3.81$ ,  $SD = 1.39$ ), or when this moderate status distance had not recently changed (moderate no-change  $M = 4.05$ ,  $SD = 1.34$ ). In addition, in the change conditions, participants reported observing greater undermining of the lower-ranked group member by the higher-ranked group member when this lower-ranked member recently moved from moderately to slightly lower in status (i.e., close change), than from significantly to moderately lower (i.e., moderate change),  $t(97) = 3.40$ ,  $p = .001$ ,  $d = .86$  (Figure 1 depicts these results visually).<sup>3</sup>

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<sup>3</sup> There were no gender effects in any of the studies reported here.





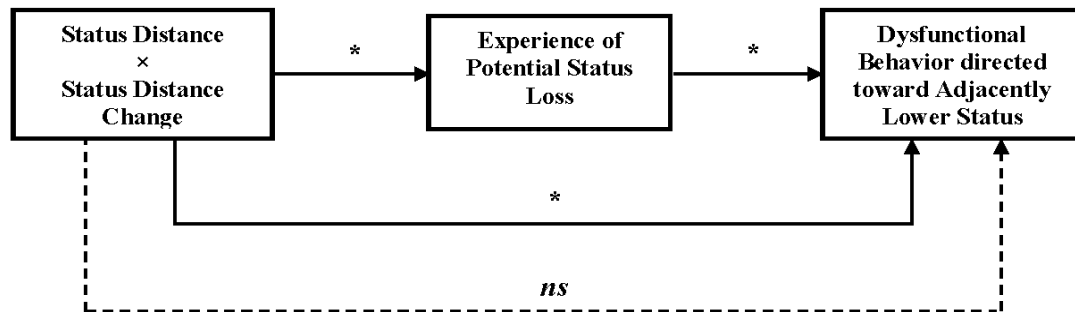
*Figure 1: Interactive effect of status distance and status distance change on undermining of the adjacently lower-ranked group member by the adjacently higher-ranked group member in Study 2.*

#### *Mediated moderation analyses*

Following procedures outlined by Preacher and Hayes (2004, 2008) I used bootstrapping analyses to test the expressed potential for status loss as a mediator of the interactive effect of status distance and status distance change on undermining of lower-ranked group members by higher-ranked group members. There are several advantages in using this method for testing mediated moderation. Specifically, it does not rely on the assumption that observations are normally distributed (e.g., MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004; Shrout & Bolger, 2002), and the number of inferential tests is reduced, thereby decreasing the probability of Type 1 error.

I conducted these analyses in an SPSS macro developed by Preacher and Hayes (2008), using 5,000 bootstrap re-samples of the data with replacement. This technique randomly extracts 5,000 new samples from the observed data (with

replacement) and computes test statistics for each these new samples, thereby providing an estimate of the distribution of each statistic. In the case of mediation analyses, this method calculates both a point estimate and a bias-corrected and accelerated confidence interval for the indirect effect of the independent variable on the dependent variable through the potential mediator (Efron, 1987). Statistical significance with alpha at .05 is indicated by the 95% confidence interval not including zero.



*Figure 2: Representation of mediated moderation models in Studies 2 and 3.*  
*Note: Dysfunctional behavior is indicated by social undermining in Study 2 and information withholding in Study 3. \*  $p < .05$*

The interactive term for status distance (close = 1; moderate = 0)  $\times$  status distance change (yes = 1, no = 0) was entered as the independent variable, expression of potential status loss as the mediator variable, and undermining as the dependent variable. In support of Hypothesis 3, the bootstrapping results indicated, with 95% confidence, that the indirect effect of the interaction of status distance and status distance change on undermining was mediated through the expression of potential status loss (point estimate = .484; 95% bias-corrected confidence interval of .063 to

.991). The significance of this mediation was further confirmed with a Sobel test,  $Z = 2.06$ ,  $p = .039$  (Figure 2 depicts these results visually).<sup>4</sup>

### *Discussion*

In support of Hypothesis 2, participants observed the greatest undermining of an adjacently lower-ranked group member by an adjacently higher-ranked group member, when the lower-ranked member recently minimized the status distance to become only slightly lower in status than the adjacently higher-ranked member. Participants in this condition reported observing significantly more undermining than those recalling the dynamics between adjacently-ranked group members of either slight or moderate status distance with no recent status change, or when a change had occurred but the lower-ranked member remained at a moderately-lower status distance. This pattern of results suggests that undermining is not merely a function of a stable versus unstable hierarchy, as significantly greater undermining was observed when the adjacently lower-ranked group member closed the status distance to become close than when the distance closed to become moderate.

Hypothesis 3 predicts that the interactive effect of status distance and a change in status distance on undermining is driven by the experienced potential for status loss. In support of this prediction, mediated moderation analyses revealed that participants' reports of the extent to which the adjacently higher-ranked member expressed that she might lose status mediated this interactive effect. That is, group members who saw the status distance between themselves and the member ranked below change and become

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<sup>4</sup> The results of the mediated moderation analyses in Chapters 4 and 5 (i.e., Studies 2 and 3) were also confirmed using methods developed by Muller, Yzerbyt, and Judd (2008) for examining mediators with two crossed-treatment variables. The authors suggested adding all two-way interactions between each treatment and the mediator and the three-way interaction to the full model. Using this method, status loss remained a significant predictor of social undermining (Chapter 4, Study 2) and information withhold (Chapter 5, Study 3), while the interaction between status distance and status distance change fell to non-significance.

close, expressed that they might lose status more than members who did not see a change or when the change left a moderate status distance, which in turn, accounted for the relatively greater undermining directed toward the lower-ranked group member under these conditions.

Although these results provide initial support for my theory, the present study is not without limitations. First, because the mediator (i.e., expression of potential status loss) and dependent variable (i.e., social undermining) were measured using similar scale formats and through a single source, it's possible that common method bias was responsible for the relationship between the constructs. Second, I proposed that higher-ranked member s' perceptions of the potential for status loss is what drives increased undermining of adjacently lower-rank members. In this study, measurement of the extent to which participants observed the adjacently higher-ranked member express the potential for status loss served as a proxy for this member's psychological experience. Not only might this vary based upon this member's baseline expressiveness and relies upon one's tendency to honestly express their feelings, but it also requires participants to provide an unvarnished account of another member's psychological experience, something participants are unlikely to have perfect access to. Finally, it is also conceivable that there was actually no more undermining of the adjacently lower-ranked member by the higher-rank member when lower-ranked member lessened the status distance to become close, but instead that observing the higher-rank member express concerns of losing status led participants to interpret this members' otherwise benign behavior as social undermining. Conversely, observing an adjacently higher-ranked member undermine a lower-rank member may have led participants to interpret ambiguous statements from this group member as expressions of concerns over potential status loss. Among other reasons, Study 3 was designed to address these concerns.

## **CHAPTER 5:**

### **BEHAVIORAL CONSEQUENCES OF STATUS DISTANCE AND CHANGE**

The goal of Study 3 was to provide confirmatory evidence for Hypotheses 2 and 3 by measuring actual behaviors in a controlled laboratory setting. In Study 3 participants were ostensibly working in a five-person group with four other participants on a collective task. The study consisted of several rounds, and after each round ratings were given, allegedly by each group member, to others' performances. These ratings formed the basis for the group status hierarchy. After a second round of rating others' performances, the status distance between participants and the group member of adjacently lower-rank decreased (or not), as the result of a status gain (in terms of distance) by the lower-ranked group member.

Following the second round of ratings, each participant was given several unique pieces of information that could help them generate ideas in the future and received questions from their fellow group members. Social undermining was operationalized as participants' withholding of information from the adjacently lower-ranked group member, information that this group member not only specifically requested and that the participant had, but also that could be used by this member to make an even greater contribution to the group in the future. Although the behaviors specific to social undermining can take several forms, in Study 3 I focus on a subtle form of undermining (i.e., information withholding) that can both hinder another group member's ability to succeed at her job and have negative consequences for group success overall. Groups that do not share information effectively experience lower performance, cohesion, knowledge integration, and decision satisfaction (see Mesmer-Magnus & DeChurch, 2009 for a review).

Aligned with Hypotheses 2 and 3, I anticipated the greatest undermining would occur – that is, the least information sharing and most information withholding – when the potential for status loss was most imminent for the adjacently higher-ranked group member (i.e., when the lower-ranked member had recently gained status to become only slightly lower in status than the adjacently higher-ranked member). Moreover, because I argue that the undermining of another group member can occur because of concerns over potential status loss, the interactive effect of status distance and status distance change on undermining was predicted to be mediated by the perceived potential for status loss.

### *Method*

#### *Participants and design*

For \$10 each, 105 university students (69 female, 34 male, 2 not reporting; mean age = 20.97 years) participated and were randomly assigned to a condition in a 2 status distance (close, moderate)  $\times$  2 status distance change (yes, no) between-subjects factorial design.

*Procedure.* Upon entering the lab, I gave participants an informed consent form and seated them at an individual computer terminal with a dividing wall. The entire study was conducted online. On the first screen of the instructions I told subjects that they would be working with four other individuals as part of a group that was tasked with coming up with “the most novel and feasible solution that you can think of for the university to cut costs (or raise revenue with little initial investment) while maintaining its standard of academic excellence and quality of student experience.” I informed participants that the group that came up with the most novel and feasible idea (as judged by a committee of university administrators) would be awarded a \$50 prize to be distributed equally among the group members. Although participants did

not actually work with other participants in the lab, participants were seated in close proximity to at least four other individuals, to further the impression of working as an actual group.

The directions stated that the study had four rounds and that the participant had been randomly assigned to be Member C in Group #41. In round 1, participants were asked to submit an idea to their group for cutting university costs or raising revenue. After submission, participants saw four other ideas, ostensibly submitted by their fellow group members. Participants were directed to rate their fellow group members on four-items (i.e., “Given Member X’s initial contribution to the group, to what extent do you...value this group member;...believe this group member will be a strong contributor in the future;...grant this group member high status;...respect this group member) from 1 (*not at all*) to 7 (*a lot*). Participants were told that the aggregate total of all group members’ ratings for each group member would be used to establish an initial ranking of the popularity of each idea and, in turn, the status of each group member.

After submitting their ratings, participants were shown a visual representation of the status hierarchy in the group that conveyed the relative status of each group member as determined by the aggregate ratings of all other group members (see Table 3). All participants were then given a score of 20, and the 3<sup>rd</sup> (out of 5) ranked status position in the group (1<sup>st</sup> = highest, 5<sup>th</sup> = lowest). While the score and rank of three of the four remaining group members was held constant across conditions (i.e., rank 1<sup>st</sup> = 29, rank 2<sup>nd</sup> = 25, and rank 5<sup>th</sup> = 11), the initial *status distance* between the participant and the member of adjacently lower-rank (i.e., 4<sup>th</sup> rank) was dependent on condition. Specifically, in the close no-change condition, the group member of adjacently lower-rank had a score of 19. In the close change and moderate no-change conditions the lower ranking member had a score of 16, and in the moderate change condition a score

of 13.<sup>5</sup> As a manipulation check, participants responded to the following question for each member of the group: “Please indicate the amount of status held by each member of the group below, including yourself, after round 1” from 1 (*the lowest status*) to 11 (*the highest status*).

Table 3: Status distance and status distance change manipulations in Study 3.

		Status Distance Change	
		Yes	No
(Ending) Status Distance	Close		
	Moderate		

*Note:* Each group contained five members. When participants viewed the hierarchy they also saw the scores for the members ranked 1, 2, and 5, whose scores between rounds 1 and 2 did not change. These members are excluded from the above to simplify the visual and direct attention on the manipulation itself, which focused on the participant (rank 3) and the member ranked adjacently below (rank 4).

In round 2 the directions asked participants to submit a second idea to the group to help the university cut costs and raise revenue. Again, participants saw four

<sup>5</sup> In order to hold final status distances constant across the change versus no-change conditions, it was necessary for the adjacently lower-ranked group member in the change conditions to initially be lower in status (i.e., 20 vs. 16, 20 vs. 13) than the lower-ranked group member in the no-change conditions (i.e., 20 vs. 19, 20 vs. 16). However, when participants reported their feelings of potential status loss and decided whether or not to withhold the requested information from the adjacently lower-ranked group member (i.e., post-change in the change conditions), the status distance in the change conditions was equivalent to the no-change conditions (i.e., close change and close no-change 20 vs. 19, moderate change and moderate no-change, 20 vs. 16).



other ideas, ostensibly the new ideas submitted by their fellow group members and were asked to rate each group member with the same four item used in round 1, this time considering the cumulative value of each group member's ideas across rounds 1 and 2.<sup>6</sup> Similar to round 1, in round 2 participants were shown a visual representation of the group status hierarchy, and any *status changes* (in terms of distance) that occurred (see Table 3). Specifically, in the *no-change* conditions, the status distance between the participant and the group member of adjacently lower-rank in the close (20 vs. 19) and moderate (20 vs. 16) conditions was unchanged from round 1. However in the *change* conditions the group member of adjacently lower-rank gained status and lessened the status distance in the dyad. Specifically, in the close change condition the group member of adjacently lower-rank moved up three units from 16 (round 1) to 19 (round 2); and in the moderate change condition moved up three units from 13 (round 1) to 16 (round 2). Participants next responded to the status manipulation check item measuring the relative status of each group member after round 2 (i.e., "Please indicate the amount of status held by each member of the group below, including yourself, after round 2" from 1 (*the lowest status*) to 11 (*the highest*

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<sup>6</sup> The ideas participants saw and that were ostensibly provided by their fellow group members were actually generated beforehand and held constant across conditions. In order to support the cover story that group members actually evaluated each others' ideas, and that the status hierarchies after round 1 and round 2 were a reflection of these evaluations, the ideas were pretested on sample of people ( $n = 22$ ) who did not participant in the focal study but who were drawn from the same student population. Together with another researcher I developed eight different ideas that could conceivably help the university cut costs. Students who participated in the pretest were shown these eight different ideas and asked to rank the ideas from 1 (*best idea*) to 8 (*worst idea*) based on the extent to which the idea was seen as a "novel and feasible way to help the university cut costs (or raise revenue) with little initial investment." These participants' idea-rankings were then averaged together to create a mean ranking of the eight ideas from best idea to worst idea (i.e., #1, #2, #3, ... #8). To make the results of the group member rating process in the focal study more believable, I assigned the ideas that were pretested to be more novel and feasible to group members who were ultimately given higher-ranks and less novel and feasible ideas to members who were given lower-ranks. Specifically, the results of the group member rating process yielded the same ordering of members after round 1 and round 2: member D was ranked #1, member A was ranked #2, the participant was rank #3, member E was ranked #4, and member B was ranked #5. Therefore, in round 1, members D, A, E, and B, were said to have generated the ideas the pretest determined to be ranked #1, #3, #5, and #7 respectively. Similarly, in round 2, these group members were then said to have generated the ideas the pretest determined to be ranked #2, #4, #6, and #8 respectively.

*status*). In addition, participants indicated their degree of agreement, from 1 (*strongly disagree*) to 7 (*strongly agree*) on three items ( $\alpha = .77$ ) measuring the *perceived potential for status loss* (i.e., “my status in this group is at risk”; “my status in this group is threatened”; “I fear losing status”) along with a series of filler items.

Participants then moved onto round 3. Participants were first given five unique pieces of information and told “The information below is unique to you. Although all members of your group have been given information, they do not have the same information as you and you do not have the same information as them. It’s entirely up to each of you whether you want to share your information with others.” The information included details on housing occupancy on campus over the summer, results of a survey on campus food/dining, the current amount of parking available on campus, the demands for on-campus day care, and the amount of sun in Ithaca every year.

After recording this information, participants were told that they could ask each of their fellow group members any questions they would like – about the information they received, about an idea, or anything else – and provided four text boxes to type these questions. Once they submitted their questions, they were shown three questions, ostensibly posed to them by their fellow group members.<sup>7</sup> One of the pieces of information that the participants was given (i.e., results of a survey on campus food/dining) was directly relevant to a question asked by the member of adjacently lower-rank (rank 4/5) (i.e., “Is any of your information about campus food or dining? I’d like to build upon my previous idea and knowing more about

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<sup>7</sup> Exploratory analyses revealed no main effects or interactions for the effect of status distance and status distance change on who participants directed their questions toward (i.e., Member A, B, D, or E) or for the total number of questions participants asked. There was, however, a general tendency across conditions for participants to be more likely to ask a question to Member A (i.e., the group member ranked adjacently-higher than themselves [rank 2/5]) (72.04% of participants asked questions to this group member), than to their other group members (percent of participants asking questions by target group member: Member D [rank 1/5] = 61.29%, Member E [rank 4/5] = 60.22%, Member B [rank 5/5] = 55.43%).

food/dining at Cornell would be useful.”). A second piece of information that the participant was given (i.e., data on Ithaca weather) was directly relevant to a question asked by the member of adjacently higher-rank (rank 2/5) (i.e., “Did you learn anything specific about Ithaca’s weather? I’m trying to think more about alternative energy sources like wind and solar power.”). The third question, posed by the lowest-ranked group member (rank 5/5) was not relevant to any of the five unique pieces of information the participant received.

Participants were then given text boxes where they could respond directly to each group member’s question. I operationalized *social undermining* as the frequency with which participants withheld this information from the adjacently lower-ranked group member, either by leaving the text box blank or responding with a message that they do not have any information relevant to the question (e.g., “Sorry, I wasn’t given that type of information.”). Information sharing occurred when the participant provided the information she had about the results of a recent survey on campus food and dining. Coding of information sharing or withholding was done the same way for participants’ responses to the adjacently higher-ranked member’s question, except that the question (i.e., regarding Ithaca’s weather) and information used to respond (i.e., the number of days with some sunshine) were different. After deciding whether to answer their fellow group members’ questions, participants provided demographic information, were probed for suspicion, debriefed, paid, thanked for their time, and dismissed.<sup>8</sup>

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<sup>8</sup> Participants were provided with a text box after completing their demographic information that asked them, “Was there any aspect of this study that seemed out of the ordinary or raised concerns for you?” Three participants expressed mild to moderate suspicion about an eventual group interaction (e.g., “I had some doubts that I would be meeting other people in Rd. 4”) and 5 participants expressed suspicion that their ideas were actually being evaluated by their fellow participants (e.g., “Were the ideas I submitted really rated by other students or was it by the researcher?”). The number of suspicious participants was relatively equally distributed across conditions (close change = 2, chose no-change = 2, moderate change = 1, moderate no-change = 3). Including versus excluding these participants had no impact on the conclusions drawn from the data; however, because none of these participants expressed

## Results

### *Manipulation checks*

*Status distance in round 1.* Recall that in round 1 all participants were given a score of 20 by their fellow group members. Aligned with this, a one-way ANOVA revealed no difference across conditions for the amount of status participants believed that they had after round 1,  $F(3, 98) = 1.29, p = .28$ . Moreover, all participants viewed the adjacently lower-ranked group member as having significantly lower status than themselves after round 1 (self vs. close no-change,  $t(26) = 2.55, p = .02$ ; self vs. close change,  $t(21) = 8.41, p < .001$ ; self vs. moderate no-change,  $t(26) = 9.79, p < .001$ ; self vs. moderate change,  $t(25) = 16.00, p < .001$ ).

Given that the key manipulation in round 1 was differences in status *distance* across conditions, it was important that participants' perceptions of their adjacently lower-ranked group members' status was not only lower than their own but also that the magnitude of the difference in status (i.e., status distance) differed by condition. Recall that the adjacently lower-ranked group member was initially given a score of 13 in the moderate change condition, a score of 16 in the moderate no-change and close change conditions, and a score of 19 in the close no-change condition. Therefore, participants in the moderate change condition should view the status of the adjacently lower-ranked group member as lower than participants in moderate no-change and close change conditions, who in turn should view their adjacently-ranked group members as lower than participants in the close no-change condition.

A one-way ANOVA revealed that participants' judgments of their adjacently lower-ranked group members' status varied by condition,  $F(3, 98) = 16.92, p < .001$ . Specifically, participants in the moderate change condition viewed the status of their adjacently lower-ranked member as lower ( $M = 2.77, SD = .71$ ) than participants in

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such extreme doubts that it was clear their responses would have been significantly impacted by their suspicion, I choose to include them in the final analyses.

the moderate no-change ( $M = 3.81$ ,  $SD = 1.18$ ) and close change conditions ( $M = 3.55$ ,  $SD = 1.10$ ),  $t(98) = 3.48$ ,  $p = .001$ . Participants' perceptions of their adjacently lower-ranked member's status in the moderate no-change and close change condition did not differ significantly from one another,  $t(98) = .87$ ,  $p = .39$ , however participants rated their adjacently-ranked member as lower in these conditions than in the close no-change condition, ( $M = 4.85$ ,  $SD = 1.23$ ),  $t(98) = 4.54$ ,  $p < .001$ . In total the manipulation of status distance after round 1 was successful.

*Status distance in round 2.* In round 2 all participants were again given a score of 20 by their fellow group members. Aligned with this, a one-way ANOVA revealed no difference across conditions for the amount of status participants believed they had after round 2,  $F(3, 101) = 1.34$ ,  $p = .27$ . Moreover, all participants again viewed their adjacently lower-ranked group member as having significantly lower status than themselves after round 2 (self vs. close no-change,  $t(26) = 2.47$ ,  $p = .021$ ; self vs. close change,  $t(23) = 2.03$ ,  $p = .054$ ; self vs. moderate no-change,  $t(25) = 10.92$ ,  $p < .001$ ; self vs. moderate change,  $t(25) = 6.16$ ,  $p < .001$ ).

Recall that the adjacently lower-ranked group member in the moderate change condition moved up three points from a score of 16 in round 1 to a score of 19 in round 2, whereas the adjacently lower-ranked group member in the moderate no-change condition again, as in round 1, received a score of 16. Therefore in round 2, participants in the moderate change and moderate no-change conditions both had an adjacently lower-ranked group member with a score of 16 and should have perceived these group members' statuses as equivalent. Moreover, the adjacently lower-ranked group member in the close change condition moved up three points from a score of 16 in round 1 to a score of 19 in round 2, whereas the adjacently lower-ranked group member in the close no-change condition again, as in round 1, received a score of 19. Therefore after round 2, participants in the close change and close no-change

condition both had an adjacently lower ranked group member with a score of 19 and should have perceived these group members' statuses as equivalent.

As anticipated, participants' status assessments of their adjacently lower-ranked group member in the moderate no-change ( $M = 3.82$ ,  $SD = 1.39$ ) and moderate change ( $M = 3.65$ ,  $SD = 1.36$ ) conditions did not differ,  $t(101) = .43$ ,  $p = .67$ .

Moreover, participants' status assessments of their adjacently lower-ranked group member in the close no-change ( $M = 4.89$ ,  $SD = 1.01$ ) and close change ( $M = 5.00$ ,  $SD = 1.56$ ) conditions did not differ either,  $t(101) = .30$ ,  $p = .77$ . Importantly, a difference in status perceptions was observed between the close and moderate status distance conditions, as participants in the close no-change and close change conditions rated their adjacently lower-ranked group members as having significant higher status than participants in the moderate no-change and moderate change conditions,  $t(101) = 4.62$ ,  $p < .001$ . In total the manipulation of status distance in round 2 was successful.

*Status change from round 1 to round 2.* In the moderate change and close change conditions participants observed their adjacently lower-ranked group member receive a higher score in round 2 than in round 1. Therefore, these participants should have perceived their adjacently lower-ranked group member as higher status after round 2 relative to round 1. In the moderate no-change and close no-change conditions participants saw their adjacently lower-ranked group members receive the same score in round 2 as in round 1. Therefore, these participants should not have perceived their adjacently lower-ranked group member as having different status after round 2 as compared to after round 1.

As anticipated, participants in the moderate change condition judged their adjacently lower-ranked group member to have higher status after round 2 relative to round 1,  $t(21) = 4.02$ ,  $p = .001$ , and participants in the close change condition similarly judged their adjacently lower-ranked group member to have higher status after round 2

relative to round 1,  $t(25) = 3.45, p = .002$ . In contrast, participants in the moderate no-change condition did not view their adjacently lower-ranked group member as different in status after round 2 relative to round 1,  $t(26) = .19, p = .85$ , and participants in the close no-change condition similarly did not perceive a difference in their adjacently lower-ranked group members' status after round 2 relative to round 1,  $t(26) = .14, p = .89$ . In total, the manipulation of status distance change versus no-change from round 1 to round 2 was successful.

### *Main analyses*

*Perception of potential status loss.* A two-way ANOVA with the perception of potential status loss as the dependent variable,  $F(3, 104) = 4.81, p = .008$ , revealed a significant status distance  $\times$  status distance change interaction,  $F(1, 104) = 7.28, p = .008$ . As anticipated, participants reported experiencing a greater potential for status loss when the lower-ranked member was previously *moderately* lower status and lessened the status distance to become only *slightly* lower status (close change  $M = 4.25, SD = 1.31$ ) than when the status distance, whether close or moderate, had not recently change (close no-change and moderate no-change), or when it changed and the lower-ranked member moved from significantly to moderately lower in status (moderate change) ( $M = 3.39, SD = .99$ ),  $t(101) = 3.45, p = .001, d = .80$ .

Moreover, simple effects revealed that participants reported experiencing a greater potential for status loss when the lower-ranked member was previously *moderately* lower status and lessened the status distance to become only *slightly* lower status (close change  $M = 4.25, SD = 1.31$ ) than when this slight status difference had not recently changed (close no-change  $M = 3.31, SD = .82$ ),  $t(101) = 3.12, p = .002, d = .86$ . In contrast, participants reported no differences in their perceived potential for status loss when the adjacently-ranked group member was moderately lower,  $t(101) =$

.66,  $p = .51$ , regardless of whether this member was previously significantly lower and moved up to become moderately lower (moderate change  $M = 3.33$ ,  $SD = 1.06$ ), or when this moderate status distance had not recently changed (moderate no-change  $M = 3.53$ ,  $SD = 1.08$ ). In addition, in the change conditions, participants reported experiencing a greater potential for status loss when the lower-ranked member recently moved from moderately to slightly lower in status (i.e., close change), than from significantly to moderately lower status (i.e., moderate change),  $t(101) = 3.02$ ,  $p = .003$ ,  $d = .77$ .

*Information withholding.* Two independent coders who were blind to the study's hypotheses and condition coded participants' responses to the question posed by the adjacently lower-ranked group members as either information withholding or information sharing. The coders were trained to indicate information withholding when the text box was left blank or with a message about not having any information relevant to the question (e.g., "Sorry, I wasn't given that type of information.") and to indicate information sharing when the participant provided, either word-for-word or paraphrased, the information contained in the following message: "In a recent survey, 38.5% of Cornell students reported they would be willing to pay more for campus food, 1-2 times per week, if there were sit-down restaurants (equipped with a wait staff) on campus. In addition, 57% of Cornell students reported they would utilize a meal plan that offered delivery services from the dining halls to their dorm rooms." As there was very little subjectivity involved in coding information sharing or withholding, the coders were in agreement on all 105 cases.

Binary logistic regression analyses with information withholding as the dependent variable (1 = information withheld; 0 = information shared), revealed no main effects and a significant status distance (close = 1; moderate = 0)  $\times$  status distance change (yes = 1; no = 0) interaction,  $\beta = 1.85$ ,  $SE = .58$ ,  $\chi^2_1 = 10.21$ ,  $p = .001$ .

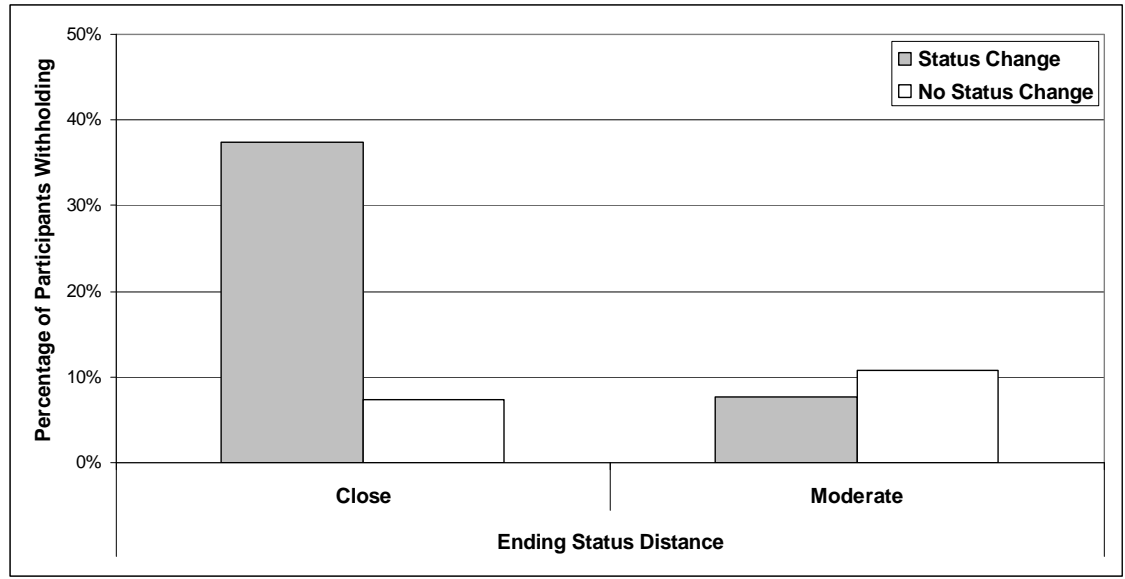


As predicted in Hypothesis 2, participants withheld the information more frequently from the adjacently lower-ranked member more when this lower-ranked member was previously *moderately* lower status and lessened the status distance to become only *slightly* lower status (close change = 37.50%) than when the status distance, whether close or moderate had not recently changed (i.e., close no-change and moderate no-change), or when it changed but the lower-ranked member moved from significantly to moderately lower in status (moderate change) (8.64%),  $\chi^2_1 = 11.94, p = .002, d = .72$ .

Moreover, participants withheld information from the adjacently lower-ranked member more when this lower-ranked member was previously moderately lower status and gained status to become only slightly lower status (close change = 37.50%) than when this slight status difference had not recently changed (close no-change = 7.40%),  $\chi^2_1 = 6.80, p = .015, d = .72$ . In contrast, participants were no more likely to withhold information from the moderately lower status group member,  $\chi^2_1 = .15, p = .99$ , regardless of whether this member was previously significantly lower and minimized the distance to become moderately lower (moderate change = 7.69%), or when this moderate status distance had not recently changed (moderate no-change = 10.71%). In addition, in the change conditions, participants withheld information from the lower-ranked group member more when this lower-ranked group member recently moved from moderately to slightly lower in status (close change = 37.50%), than from significantly to moderately lower (moderate change = 7.69%)  $\chi^2_1 = 6.46, p = .016, d = .72$  (Figure 3 provides a visual depiction of these results).<sup>9</sup>

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<sup>9</sup> Given that the frequency of withholding was less than five in three out of four conditions, all significance levels were determined using Fisher's exact test.



*Figure 3: Interactive effect of status distance and status distance change on withholding information from the adjacently lower-ranked group member by the adjacently higher-ranked group member in Study 3.*

#### *Mediated moderation analyses*

As in Study 2, I used bootstrapping analyses to test Hypothesis 3: the perceived potential for status loss as a mediator of the interactive effect of status distance and status distance change on information withholding from the adjacently lower-ranked group member by the adjacently higher-ranked group member. I again conducted these analyses using an SPSS macro developed by Preacher and Hayes (2008), specifying 5,000 bootstrap re-samples of the data with replacement. Statistical significance at  $\alpha = .05$  is indicated by the 95% confidence interval not crossing zero.

The interactive term for status distance (close = 1; moderate = 0)  $\times$  status distance change (yes = 1; no = 0) was entered as the independent variable, the perceived potential for status loss as the mediator variable, and information withholding from the adjacently lower-ranked group member as the dependent variable (1 = information withheld; 0 = information shared). In support of Hypothesis

3, bootstrapping results indicated, with 95% confidence, that the indirect effect of the interaction of status distance and status distance change on information withholding was mediated through the perceived potential for status loss (point estimate = 1.630; 95% biased-corrected confidence interval of .272 to 3.738). The significance of this mediation was further confirmed with a Sobel test,  $Z = 2.37$ ,  $p = .017$  (Figure 2 provides a visual depiction of these results).

#### *Additional analyses*

*Information withholding from adjacently higher-ranked member.* I also examined whether the status distance and change manipulations between the participant and the adjacently lower-ranked group member (rank 4/5) affected participants' willingness to share information with their adjacently *higher-ranked* (rank 2/5) group member. The same two independent coders coded participants' responses to the question posed by the adjacently higher-ranked group members as either information withholding or information sharing. Indicators of information sharing or withholding were done the same way as for participants' responses to the adjacently lower-ranked group member's question, except that information sharing was indicated if the participant provided, either word-for-word or paraphrased, the following information: "In Ithaca, NY there are, on average, 155 days each year with some sunshine."

Binary logistic regression analyses, with information withholding from the adjacently higher-ranked group member as the dependent variable, revealed no main effects or interaction,  $\chi^2$ 's < .90,  $ps > .34$ . Moreover, the frequency of withholding from this higher status member never exceeded 8.33%, and did not meaningfully differ between conditions,  $\chi^2$ 's < .50,  $ps > .59$ .

*Omission versus commission.* Information withholding from the adjacently lower-ranked group member occurred in one of two ways: omission, where no response was given to the request for information (i.e., the text box was left blank), or commission, where the participant replied with a dishonest response (e.g., “I wasn’t given info on campus food.”). An examination of the data revealed that acts of commission-based information withholding occurred almost exclusively when the adjacently lower-ranked member was previously moderately lower-status and gained status to become only slightly lower status (frequency of commission based information withholding: close change = 4; close no-change = 0; moderate change = 0; moderate no-change = 1). In contrast, omission-based withholding, although still most prevalent when the lower-ranked member lessened the status distance to become only slightly lower status, was found in all conditions (frequency of omission based information withholding: close change = 5; close no-change = 2; moderate change = 2; moderate no-change = 2).

Because the frequency of information withholding, both commission and omission based, was relatively low throughout the sample ( $16/105 = 15.24\%$ ), and, as show above, varied significantly by condition, I had insufficient statistical power to examine differences in the ratio of commission- versus omission-based information withholding across conditions. However, I conducted exploratory analyses in binary logistic regression with only commission based withholding as the dependent variable, and then separately with only omission based withholding as the dependent variable.<sup>10</sup>

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<sup>10</sup> Because these exploratory analyses were interested in understanding if either or both of omission- or commission-based withholding alone, in comparison to information sharing, varied by condition, only one form of withholding was included in each set of analyses. Specifically, when examining the interactive effect of status distance and status distance change on omission-based withholding, participants who engaged in commission-based withholding were excluded from the analyses (dependent variable coded as 1 = omission-based withholding, 0 = information shared). Similarly, when examining the interactive effect of status distance and status distance change on commission-based withholding, participants who engaged in omission-based withholding were excluded from the analyses (dependent variable coded as 1 = commission-based withholding, 0 = information shared).

No main effects emerged, however a significant status distance  $\times$  status distance change interaction was found for both forms of withholding (commission:  $\beta = 2.98$ ,  $SE = 1.15$ ,  $\chi^2_1 = 6.69$ ,  $p = .010$ ; omission:  $\beta = 1.41$ ,  $SE = .67$ ,  $\chi^2_1 = 4.47$ ,  $p = .034$ ). These analyses establish that status distance and status distance change had a similar interactive effect on information withholding, regardless of whether the withholding was an omission or commission behavior.

### *Discussion*

In support of Hypothesis 2, participants withheld information from their adjacently lower-ranked group member more when this group member recently minimized the status distance to become only slightly lower in status, compared to when the status distance between the participant and the adjacently lower-ranked group member did not change, or when a change occurred but the lower-ranked member became only moderately lower in status. This pattern of results again suggests that withholding is not merely the result of a stable versus unstable hierarchy, as significantly more withholding was observed when the adjacently *lower-ranked* group member closed the status distance to become close than when the distance closed to become moderate. In addition, regardless of the status distance or change in distance that occurred between the participant and the adjacently lower-ranked group member, withholding information from the adjacently *higher* ranking group member was infrequent and did not vary across conditions. This suggests the relatively higher proportion of withholding from the lower-ranked member who minimized the distance to become close in status was not the result of participants disengaging from the study or ignoring their group members. Instead it points to withholding as a deliberate behavior (expressed as either omission or commission) targeted at a member that threatens one's current status.

Aligned with this conclusion and in support of Hypothesis 3, bootstrapping analyses showed that the interactive effect of status distance and status distance change on information withholding from the adjacently lower-ranked group member was mediated by participants' experience of potential status loss. That is, participants who saw the status distance between themselves and the member ranked below them change and become close, perceived that they were more likely to lose status than members who did not see a change or when the change left a moderate status distance. This difference in the perceived potential for status loss then accounted for the between condition differences in participants' information withholding from their adjacently lower-ranked group member.

## **CHAPTER 6:**

### **GENERAL DISCUSSION, THEORETICAL IMPLICATIONS, FUTURE DIRECTIONS**

Most broadly, the goal of this research was to demonstrate the utility of developing a perspective on status that is more nuanced and dynamic than the historically and currently predominant static, rank-based conceptualization. In doing so, I first introduced the concept of *status distance*, and showed that among pairs of adjacently-ranked group members, differences in status distance can and do vary dramatically (Chapter 3). Second, I introduced the concept of *status distance change* and demonstrated that how adjacently-ranked group members behave toward one another, at least in terms of social undermining behaviors, is a function of the current dyadic status distance and whether this distance has recently changed (Chapters 4 and 5). Because the principal dimension of status difference has been static, ranked-based difference, I varied status distance and status distance change while holding ranked-based differences constant, and found that introducing these bases of difference predicted interpersonal behavior.

Since exploring the full range of possible status distance and status distance change combinations, coupled with the numerous behavioral responses that might follow, was an intractable task for an initial investigation, I constrained this research to a subset. More specifically, the results presented in Chapters 4 and 5 converge to show that differences in status distance, and changes in that distance, can have an interactive effect on detrimental intragroup behaviors. Whether recalling a broader spectrum of social undermining behaviors (Chapter 4) or focused directly on the behavioral withholding of information (Chapter 5), when an adjacently lower-ranked group member minimized the status distance and became close, adjacently higher-ranked

group members engaged in these behaviors more. This pattern of data also highlights that such behaviors do not merely result from an adjacently lower-ranked member being close in status or from any lessening of the status distance, as relatively less undermining and information withholding was observed when the lower-ranked member remained stably close or when this member moved up to become a moderate status distance away. Instead, these results point to social undermining and information withholding as deliberate behaviors from an adjacently higher-ranked member, behaviors aimed at blocking the status advancement of a lower-ranked group member who stands to potentially overtake the higher-ranked member's status.

In support of this conclusion, mediation analyses in Chapters 4 and 5 showed that the interactive effect of status distance and distance change on social undermining behaviors toward (Chapter 4), and information withholding from (Chapter 5), the adjacently lower-ranked group member was accounted for by the higher-ranked member experiencing the potential for status loss. That is, when the distance was minimized and the adjacently lower-ranked group member became close in status, higher-ranked members felt that they might lose status more than members who did not see a change or when the change left a moderate status distance, which in turn accounted for the relatively greater undermining and information withholding by the higher-ranked members.

### *Theoretical Implications*

This research makes several theoretical advancements to the literature on status dynamics within small groups. First, I establish that differences in status *distance* exist (Chapter 3) and that these differences, together with *changes in distance*, introduce variance that is predictive of interpersonal behavior that would not be accounted for if status was solely considered in its current static, rank-based terms. Although much is



known about how ordinal, rank-based status differences (e.g., higher status versus lower status) affect behavior (e.g., Bales, 1951; Berger et al., 1977; Blau, 1964; Ridgeway & Diekema, 1989; Tiedens & Fragale, 2003), the experiments presented in Chapters 4 and 5 held these differences constant, and found that the additional measures of status difference established in this research (i.e., distance and distance change) significantly predicted social undermining and information withholding among group members. This supports the notion that people are not only able to recognize differences in status distance (Chapter 3), but that their reactions to the size of this distance can meaningfully vary depending on whether it has recently changed.

Second, while prior work has implicitly (e.g., Goffman, 1969; Owens & Sutton, 2001; Menon et al., 2006; Pettit & Lount, 2010; Scheepers & Ellemers, 2006) and explicitly (Pettit et al., 2010) considered how the *potential for* status change may influence attitudes and behavior, this research is among the first to 1) systematically examine how group members behave toward one another *as the result of* status change, and to 2) conceptualize change as micro-adjustments in status distance rather than ordinal, rank-based status changes. Acknowledging status distance and distance change as important aspects of status offers a novel, and perhaps more sensitive, measure of hierarchical (in)stability that does not rely on reshuffling the rank-order. Moreover, by showing that where one's status was in the past compared to where one's current status is now has important consequences for behavior; this research opens the door for work that treats status distance change (versus no-change) as a component of status difference, and speaks to the potential fruitfulness of further developing dynamic status models.

Third, these results challenge the functionalist approach to status in small groups. Prominent theories of status argue that a consensual ranking of group members according to their expected contributions facilitates group functioning (e.g.,

Berger, et al, 1980). This assumes that individuals will subordinate their own personal status interests for the benefit of the group (e.g., Berger & Conner, 1974; Berger et al., 1977; Willer, 2009). Instead, the present results reveal an ironic consequence of hierarchical formation – namely, that dysfunctional behaviors, such as social undermining (Chapter 4) and information withholding (Chapter 5), may be a byproduct of changes in a structure assumed to promote and organize toward group goals. Recall that in the experiment presented in Chapter 5, the group that developed the best idea on each day would be awarded a \$50 prize to be split among the members. Yet participants who experienced a threat to their status withheld information from a group member attempting to work toward this goal. Notably, this was observed in a context where *group* performance, not *personal* status, offered a monetary benefit to the individual, and converges with prior work showing that people are willing to make monetary trade-offs in order to protect against the pain of rank-based status loss (Pettit et al., 2010).

Finally, although the negative consequences of social undermining, such as decreased motivation and organizational commitment, are well documented (e.g., Duffy et al., 2002; Duffy et al., 2006), less is known about the situational *antecedents* of social undermining. The current work highlights how status change can, under certain circumstances, promote social undermining. Because social undermining encompasses a range of behaviors intended to hinder another's ability to succeed professionally and/or personally in the workplace, undermining maps well onto status attainment and maintenance strategies used to negatively influence other group members' impressions of a person's abilities, contributions, and value. In particular, specific undermining behaviors such as delaying work to make another look bad, giving incorrect or misleading information, belittling another's ideas, and not defending someone when others speak poorly of them, are behaviors that can either go

undetected by others or where the motivation underlying the behavior (personal status concern vs. group concern) is ambiguous. In this case, group members with a primary interest in attaining or maintaining status can engage in these self-interested behaviors “under the guise” of completing the work of the group (Schwartzman, 1986), thereby maintaining the illusion of group-interest, a necessary condition for status conferral (Ridgeway, 1982; Willer, 2009). Incorporating social undermining into future research on status in work groups may prove valuable in better understanding the dynamics involved in “negotiating” the informal order (Owens & Sutton, 2001).

### *Future Directions*

There are numerous features of this research that call for future study. First, I constrained my investigation to a subset of all possible status distance and change combinations for purposes of tractability, and examined these only in terms of various forms of social undermining. However, as previously indicated in Table 1, other permutations of status distance and change, and the behavioral reactions that follow, remain open for investigation. For instance, drawing from research on upward social comparisons and motivation (Johnson, & Stapel, 2007; Weber & Hertel, 2007), an adjacently lower-ranked group member may respond with greater task-based effort when the adjacently higher-ranked member lengthens the status distance between the two. Moreover, when an adjacently higher-ranked member’s value and ability, and in turn status, has eroded over time, thereby steadily lessening the status distance between himself and a lower-ranked member, the higher-ranked member may engage in a defensive status “move” (Goffman, 1969), such as politicking or favor exchange with higher-ups, to prevent further slippage and a rank-based status loss. In contrast, the adjacently lower-ranked member may see the shrinking status distance as reason to engage in an offensive “move,” such as working harder or developing a stronger skill-

set, to capitalize on the opportunity for a rank-based gain. These, among other predictions, offer numerous avenues for future work.

Second, although the results of the present studies help establish the utility of measuring status distance and status distance change, and the value of using these to predict interpersonal behavior, it is important to note that I focus only on behavior in terms of various forms of social undermining. Other, potentially more positive behaviors (e.g., task-motivation, helping), were not measured in Study 2 or made available to participants in Study 3. In fact, the only option participants in Study 3 had to resolve feelings of potential status loss was to withhold information. There is an array of different behaviors available to group members in real interacting groups, and were some of these other behavioral routes provided, it is possible that participants would have chosen a less damaging route. While the results of Study 2 – where participants reported on a group member's behavior (i.e., social undermining) in a context where this was presumably not the only behavioral option – help to partially allay this concern, it is still worth noting that how status distance and change impacts undermining when alternative behavioral options and made available remains unknown.

Third, when it comes to dysfunctional behaviors such as social undermining and information withholding, various individual- and group-level, as well as broader contextual variables, may moderate the effects shown in this research. For example, one's own place in the hierarchy may play a role. Prior work argues that hierarchies tend to be more contested at the extreme top and bottom (e.g., Garcia & Tor, 2007; Garcia, Tor, & Gonzalez, 2006). Exploratory analyses in Study 1 found that status distances between adjacently ranked group members toward the top of the hierarchy tended to be closer than those at the bottom. Together, the increased competitiveness toward the top coupled with the relatively smaller status distances between the upper-

ranks (i.e., increased potential for rank-based status loss), may make it more likely for higher-ranked group members to respond to status changes with undermining than middle- or lower-ranked members. In contrast, in cohesive groups, under complex task demands and highly interdependent jobs, or when a group faces a threat to their standing through intergroup competition, members, regardless of their status, may refrain from attending to personal status concerns and instead focus on the best interests of the group. Similarly, members scoring high on collectivism, group identification, need for belongingness, and group commitment, may be less likely to engage in these behaviors at baseline. However, when group boundaries are highly permeable, individual rewards are high, or the time-span of the group is short, members may be more likely to value their personal status over the welfare of the group. Finally, individuals high in neuroticism or need for power may be predisposed to engage in self-focused behaviors whenever their status is perceived to be at risk.

Fourth, a focus on individual differences raises the question of whether people differ in their personal theories of how status is distributed and operates in groups. For some, status may be seen as zero-sum. These people may assume that in the realm of personal status, as in competitive behavior, outcomes are negatively correlated and interdependent (Deutsch, 1960), such that a status gain by one person automatically necessitates a status loss for another. People with this orientation may be highly attuned to status changes and quickly respond in order to preserve their own standing. In contrast, others may hold a different theory, that the pool of available status is expandable, and consequently their fellow members' upward or downward movement in the hierarchy has little relevance for their personal status. Whether people differ in their theories of how status is distributed remains an open question (see Carol Dweck's work for related arguments regarding the impact of people's implicit theories of intelligence on motivation and goals [e.g., Dweck, 1999; Dweck & Leggett, 1988]).

However, if variance does exist, these differences are likely to play an important role in predicting a range of intragroup behaviors.

Fifth, the finding that group members are willing to work against a group's best interests, and even forsake potential monetary gain in order to prevent a status loss (Chapter 5), exposes a fundamental tension inherent in group life. As social beings we have a need to affiliate with others and to seek and maintain membership in groups (e.g., Baumeister & Leary, 1995; McClelland, 1958). At the same time, we have a desire to be unique in some way, to stand out, and to be respected and distinctive (e.g. Greenberg et al., 1992; Kernis, 1984; Snyder & Fromkin, 1977). Groups both facilitate and challenge these competing desires. On the one hand, although group membership can help satisfy our need for affiliation we also run the risk of becoming subsumed by the group, of being an undifferentiated and fully substitutable member, one without distinctive characteristics or unique value (e.g., Brewer, 1991; Brewer & Gardner, 1996; Postmes & Jetten, 2006). Yet on the other hand, group membership offers a person with implicit points of social comparison (e.g., Festinger, 1954; Hoffman et al., 1954; Stapel & Suls, 2004; Tesser, 1988), that provide, if called for, either respect and esteem from others in recognition of one's unique contributions (e.g., Barkow, 1989; Berger et al., 1977; Maslow, 1943), or disrespect and even ostracism if one is not valued or willing to conform to established norms (e.g., Felp, Mitchell, & Byington, 2006; Heckathorn, 1990; Williams, 1997).

I believe this "paradox of groups" (Smith & Berg, 1987) maps on well to the concept of status and is a major reason that group life, and more specifically the task of balancing personal status aspirations with group-motivated behaviors, can be so challenging. Having at least moderate status within a group signals that a person is socially accepted and viewed as a contributor toward group goals. Indeed, one determinant of status conferral is the extent that a member is perceived to be

motivated to do good for the group (Ridgeway, 1982; Willer, 2009). At the same time, status allows an individual to stand apart from others. Hierarchies differentiate people and having more status signals that one is perceived to be relatively more valuable or important. In this way, what is special about status is that it serves both the group and the individual: a differentiated hierarchy is assumed to organize individuals around the task and toward the completion of group goals, while having status can also fulfill individuals' esteem and respect needs through social comparisons with others. The tension, however, comes when these competing interests conflict and hierarchical changes promote behaviors that can harm others and the group (Chapters 4 and 5). Status itself therefore poses somewhat of a social dilemma as its usefulness is predicated upon group members balancing their competing desires. The social dilemmas literature (e.g., Axelrod, 1984; Hardin, 1968; Maner & Mead, 2010; Van Lange, Otten, De Bruin, & Joireman, 1997; Van Vugt & De Cremer, 2007; Yamagishi, 1986), because of its overarching focus on studying the conflicts between self-interest and collective-interest, may offer important insights and a paradigm to help advance future work on status changes and conflicts in groups.

Finally, the sum of this work suggests a need for new models of status that acknowledge and incorporate predictions on how status change impacts attitudes, intragroup behavior, and performance. This is not only theoretically important, but potentially practically useful. As noted previously, organizations are moving increasingly toward the use of flatter, informal, team-based structures in order to be nimble enough to keep up with changing institutional demands. Therefore, the factors that have pushed organizations to adapt in this way and rely upon informal hierarchies are the very same forces that make it likely that informal status structures will continuously adjust. When the skills and abilities that are most valued change, so too will the status hierarchy. Given this, one of the most critical challenges facing status

researchers today and going forward is to develop dynamic status models that better approximate the conditions faced in modern organizational life.

### *Conclusion*

One of the primary assumptions underlying decades of research on informal status in small groups (Bales, 1951; Berger et al., 1977; Ridgeway, 1982; Willer, 2009) is that status serves a coordinating function, allowing people to understand who defers to whom, and organizing members toward group goals. In this research I have shown that status hierarchies can also give rise to behaviors that work against the best interests of the group. This ironic consequence of social hierarchy was observed when adopting a new way of looking at status differences, one that does not rely solely on ordinal rank-based differences, but instead focuses on the magnitude of status difference (i.e., status distance) and changes in this distance. The micro status changes studied in this research are small, and do not constitute a reshuffling of the informal order; however, the behaviors that followed are very real and can have deleterious consequences for group functioning.



## APPENDIX 1

**Directions:** A good way to start this exercise may be to begin by listing the initials of all the “core” members of the group, and arranging them either from lowest to highest status, or highest to lowest status, whatever is easier for you, on the line(s) below. When it comes to your place in the group, please write ‘MY STATUS’ among the initials:

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Then, think about the *magnitude of status differences* between the group members, including yourself. For instance, were there individuals who were very close in status? Others who were very different in status? What did the overall status space look like?

Use the suggestions below as a rough guideline for arranging group members relative to one another. Again, the important point is to draw the overall status hierarchy, and each individual’s place within it, in a way that you feel best depicts the status structure of the group you chose.

- **Small status differences** between individuals: 1-3 spaces
- **Moderate status differences** between individuals: 4-8 spaces
- **Large status differences** between individuals: Greater than 8 spaces

Finally, begin placing each group members’ initials on the vertical status line to the right, next to the dash that indicates their relative status. Again, write ‘MY STATUS’ next to the dash that indicates your own place in the group.

**Important:** Work in order of status, either from lowest to highest status, or highest to lowest status. **DO NOT** “jump around the hierarchy,” placing the highest status member at the very top dash of the hierarchy, the lowest status members at the very bottom dash, and then fill in the other members in the middle. Similarly, you do not need to use the entire range of the hierarchy (although you may). For instance, if you start with the lowest status member at the bottom, work up to the highest status member, and this member’s status is only 2/3 of the way up the status hierarchy line to the right, that is *perfectly fine*. Status is inherently *relative* – it’s the differences between individuals that are most important, not the overall height of the status hierarchy.

Higher

INDIVIDUAL  
STATUS

Lower

## APPENDIX 2

Recall scenario in Study 2:

Please read about the group below. If you can recall a similar situation from your previous experiences working in a group, please draw from this experience. If you absolutely cannot, imagine such a scenario.

Think of a time, or imagine such a scenario, where you were a group member who watched the following dynamics occur, but you were neither of the group members described below.

Group Member A and group Member B are both relatively strong contributors within the same group, a long-term enduring group at their workplace. Neither Member A nor Member B is the highest or lowest status member of this group. By status we mean the amount of respect, prestige, and admiration that an individual enjoys in the eyes of others. Because this is a group at work, everyone is concerned about the group performing well.

### **Status distance = small, status change = no**

[Members A and B are ranked next to each other in status (e.g., status rank #2 and status rank #3, #3 and #4, etc). The magnitude of the status difference between Member A and Member B is currently, and has been for awhile, rather small, with Member A having slightly more status than Member B.]

### **Status distance = moderate, status change = no**

[Members A and B are ranked next to each other in status (e.g., status rank #2 and status rank #3, #3 and #4, etc). The magnitude of the status difference between

Member A and Member B is currently, and has been for awhile, moderate, with Member A having moderately more status than Member B.]

**Status distance = small, status change = yes**

[Members A and B are ranked next to each other in status (e.g., status rank #2 and status rank #3, #3 and #4, etc). Not too long ago the magnitude of the status difference between Member A and Member B was moderate, such that Member A had a moderate amount more status than Member B.

However, recently Member B has improved. Member B's contributions to the group have recently received more positive attention and praise from others, and he/she is currently being seen as more valuable. Therefore, Member B has recently gained status compared to Member A. Although Member A used to have moderately more status than Member B, Member B's rise in status has made it such that Member A now has slightly more status than Member B.]

**Status distance = moderate, status change = yes**

[Members A and B are ranked next to each other in status (e.g., status rank #2 and status rank #3, #3 and #4, etc). Not too long ago the magnitude of the status difference between Member A and Member B was significant, such that Member A had a significant amount more status than Member B.

However, recently Member B has improved. Member B's contributions to the group have recently received more positive attention and praise from others, and he/she is currently being seen as more valuable. Therefore, Member B has recently gained status compared to Member A. Although Member A used to have significantly more status than Member B, Member B's rise in status has made it such that Member A now has moderately more status than Member B.]

Given the status arrangement, please write a few sentences describing how Member A felt about his/her place in the group, how he/she reacted, etc.

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